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ABSTRACT

The flight of white families from communities in response to school desegregation can be calculated as a "cost" of desegregation, and can be analyzed in relation to the "net benefit"--interracial contact--of various school desegregation plans. Moreover, mass media and minimally, community leadership, affect the rate of white flight. Data on 113 school districts, measured in terms of reassignment of black and white students by a court or local government, indicate that implementation year costs are greater when school desegregation plans are phased in, rather than completely implemented in one year. The greatest white enrollment loss in both cases comes in the year of implementation. Losses average out to zero or even a gain over a five-year period in all but 35% of the school districts. All school desegregation plans show a net benefit in interracial contact. Analysis of news coverage of school desegregation shows that community leadership has very little effect on white flight or protest, but that the more negative the news media and coverage the greater the white flight. In addition, the average severity of protest in the first six months of the pre desegregation year also has an effect on white flight independent of the degree of school desegregation. (Author/KR)

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Assessing the Unintended Impacts of Public Policy: School Desegregation and Resegregation

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Assessing the Unintended Impacts of Public Policy:
School Desegregation and Resegregation

Abstract

Section I: THE AGGREGATE ANALYSIS

The greatest indirect enrollment costs of school desegregation are in the year of implementation. Because post implementation year losses tend to be less than normal, assessing costs over a five year period indicates the total loss is reduced to zero or even a benefit in all but 35 percent or greater city school districts. In these school districts, the most extensive plans involving white reassignments can result in an additional white enrollment loss of almost 6 percent over the five year period. This is less than half the implementation year loss.

These data also indicate that implementation year costs are greater when school desegregation plans are phased in, rather than completely implemented in one year. In addition, the evidence presented here shows change in proportion white to be minimally affected by school desegregation because of the tendency for black and white enrollment change to be positively correlated with each other.

Finally, all school desegregation plans show a net benefit in interracial contact, and paradoxically this benefit is greatest in school districts at or above 35 percent black despite the fact that these are the school districts with the greatest white enrollment loss.

Section II: THE EFFECT OF COMMUNITY LEADERSHIP AND THE MASS MEDIA

News coverage of school desegregation was analyzed in a sub sample of ten court ordered cities for a year before school desegregation. The data show community leadership has very little effect on white flight or protest, but in part this may be a function of the fact that there were very few statements made by leaders about school desegregation. In general, the more minimal the school desegregation plan, the more favorable were the statements. The evidence suggests, as well, that protest causes negative leadership statements rather than the other way around.

The news media coverage of school desegregation did have an effect on white flight independent of the extent of the plan. The more negative the coverage of desegregation, the greater the white flight. In addition, the average severity of protest in the first six months of the pre desegregation year also has an effect on white flight independent of the degree of school desegregation.

Assessing the Unintended Impacts of Public Policy:
School Desegregation and Resegregation*

Introduction

The study of policy impact involves a basic model in which an analyst selects a policy innovation, preferably of a rather specific kind, identifies the goals of the policy, the target and/or target population, and assesses the impact of that policy innovation on the target. Costs are typically measured in dollars and then subtracted from the benefits which accrue to the target group.

Most analysts suggest, however, that such outcome evaluation distinguish between the impact of a policy on the target situation or group, and its impact on groups or situations other than the target (i.e. "spillover effects"). In addition, impact analysis (or outcome evaluation) should include future as well as immediate conditions, direct costs in terms of resources devoted to the program, and indirect costs, including loss of opportunities to do other things.

The research on school desegregation has suffered from the failure to consider these elements. In general, this research has seldom gone beyond the immediate impact of the policy on the target group (e.g. minority children) using a simple input-output paradigm.
Nevertheless, with the advent of court ordered, citywide school desegregation plans around 1970, policymakers have become increasingly uneasy about the possible indirect costs and spillover effects which may subvert the goals of school desegregation. These goals can be conceptualized on several levels depending on one's orientation and requirements, but certainly a basic

instrumental goal is simply interracial contact.

White flight in response to school desegregation is one communitywide, unintended impact which may subvert this goal. It is assumed a priori that such an impact is possible because there is a large body of literature which suggests that neighborhood problems are a "push" factor behind exit from a metropolitan neighborhood. (For example, see Orbell and Uno, 1972; Lansing and Barth, 1964; Johnson 1975). School desegregation may present such a problem or dilemma for many middle class, white families, particularly in light of Wendell Bell's (1956) finding that the main reason given for a move to the suburbs is that "it would be better for the children there."

From a policymaker's viewpoint white flight in response to school desegregation might be seen as a risk or an indirect cost--i.e. it is not normally a part of the cost/benefit analysis a local decisionmaker typically calculates, but there is every reason to believe it should be since the greater the white flight, the lower the interracial contact and the benefits that accrue from it. Using Dye's (1975) terminology, white flight from school desegregation can also be thought of as a spillover effect since it affects the choice of schools and residence for white families and may further contribute to the decay of central cities.

The research reported here is an attempt to assess this unintended negative impact and to calculate the net benefit in interracial contact of various school desegregation plans. Salamon (1976) argues that much policy impact research is misleading because it neglects the time dimension. The real impact of public policies may not appear until after a considerable period of time. The long run impacts may support, negate, or even reverse the immediate effects.

The failure to do this kind of analysis leaves policymakers the captive of far more limited--and frequently negative--early program consequences.

This study differs from previous studies in that it is longitudinal and quasi-experimental. This allows us to assess the impact of school desegregation on white enrollment before, during, and after implementation. Moreover, unlike other studies, this national study of 113 school districts includes data on school desegregation plans and the proportion of students reassigned of each race.

Background

The decline in white public school enrollment began long before the advent of court ordered school desegregation plans in the early 1970's. Urban economists such as Clotfelter (1977) and Katzman (1977) suggest it is in large part a function of the post World War II suburbanization trend resulting from (1) market forces such as rising incomes and changes in production and transportation; (2) public policies providing subsidies to transportation, highways, and middle income suburban housing; and (3) discrimination agains blacks, causing them to be underrepresented in suburbs relative to their economic status. Central city crime and city-suburban fiscal disparities have also been suggested as possible stimulants of this white middle class exodus to the suburbs.

In addition, the declining white birth rate has on its own caused a reduction of almost one percent in overall white school enrollments since 1968. The yearly decrease is now almost 2 percent. The black school age population, on the other hand, continued to increase until 1974 or 1975, raising the percentage black among all elementary and secondary students from 13.4 percent in 1968 to 14.4 percent in 1974 (U.S. Bureau of the Census, 1976). Recently,

however, the black birth rate has begun to decline resulting in a reduction in black enrollment, particularly in the North where it is complicated by black net migration to the South.

Determining the decline in white public school enrollment resulting from school desegregation means isolating the policy impact from these long term demographic trends. Unfortunately, the data are not available for a comparative analysis which distinguishes between the two types of flight which school desegregation might provoke: the transfer of students to private school and the movement of families to the suburbs. Three case studies (Taylor and Stinchcombe, 1977; Johnson, 1977; McConahay and Hawley, 1976) using survey sampling techniques in communities with citywide desegregation plans, indicate that white flight from school desegregation does not take the form of residential relocation to the suburbs. Thus, there is the possibility that whatever other negative impacts school desegregation may have, it has little or no effect on the further deterioration of inner cities. These findings are also important because over the long run, the possibility of white return to the public schools is greater if white families do not relocate to the suburbs.

It is also conceivable that the phenomenon of "nonentrance" is as important as white "exit." Studies of residential turnover have found that neighborhoods changing from predominantly white to predominantly black do not have higher rates of white outmigration than other areas. Rapid racial turnover is caused by the fact that whites moving out are not replaced by other whites in the normal pattern of residential relocation that occurs in any metropolitan area (Palmore and Howe, 1962; Molotch, 1969). Unfortunately, there is no available school enrollment data which allow us to examine this. On the other hand, while it may be important to distinguish between exit and nonentrance, for the purposes of this study net change is sufficient to calculate net benefits.

The Evidence

The previous research examining school desegregation and its impact on white flight can be divided into two categories: the early studies that found little or no white flight, (Clotfelter, 1976a; Farley, 1975; Rossell, 1975; Frey, 1977; Pettigrew and Green, 1976; Giles, Gatlin and Cataldo, 1976; Bosco and Robin, 1974; Mercer and Scout, 1974; Jackson, 1975) and the later studies which included southern cities and the 1973 school year and found significant white flight as a result of school desegregation. (Coleman, Kelly, and Moore, 1975b; Farley, 1976; Clotfelter, 1976b; Clotfelter, 1977b; Armor, 1976; Lord, 1975; Munford, 1973). [1]

A careful reading of these studies indicates the most important reasons for the divergent findings are sample and time differences, rather than methodological differences. As Figure 1 illustrates, the characteristics of desegregation plans have changed over time. With each year after 1970, a larger proportion of white students are reassigned to formerly black schools in the average desegregation plan. If the extent of white reassignments is a critical variable, then the time period of the study will be equally important unless such reassignments are explicitly controlled for. In none of these studies is this done.

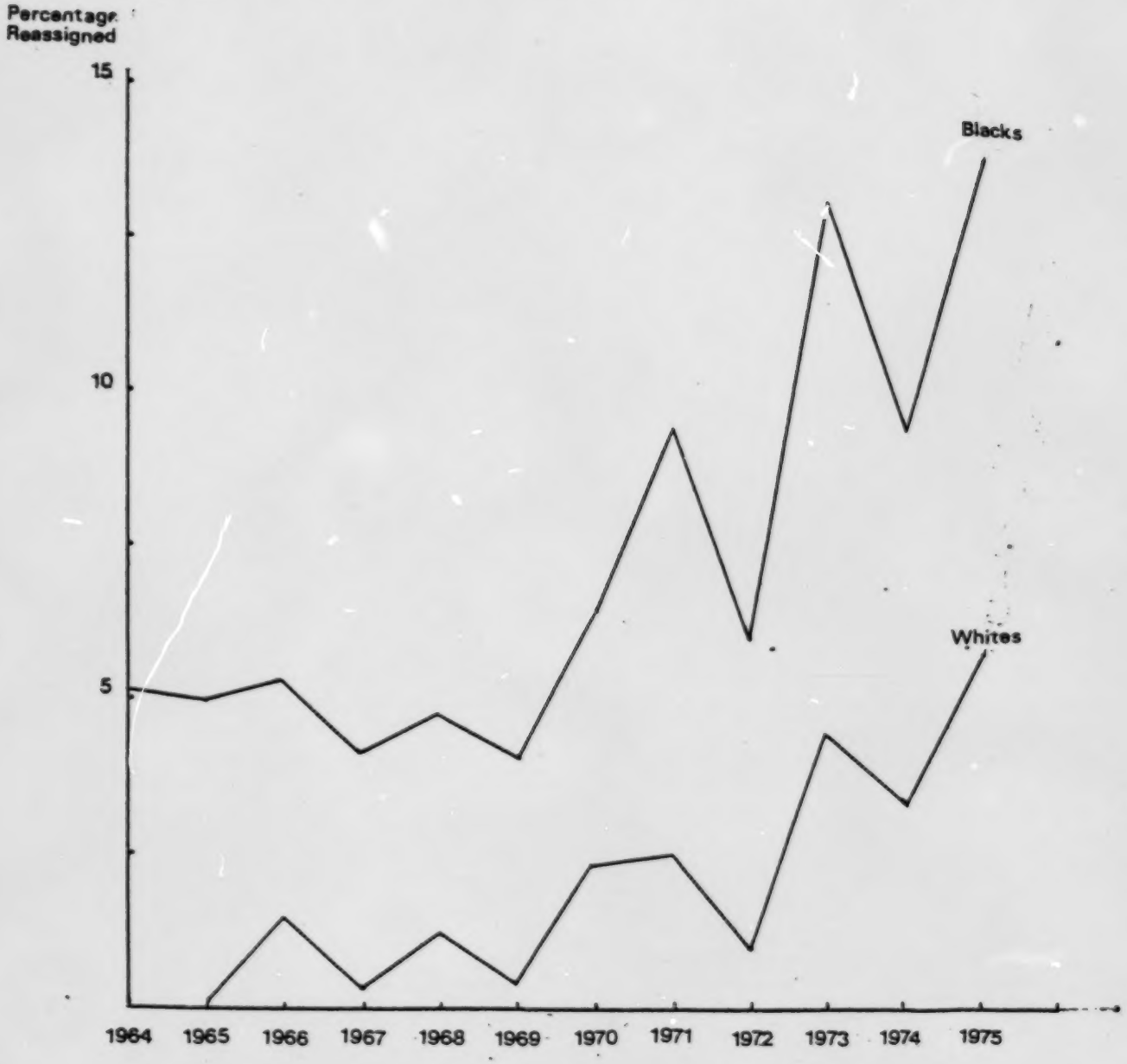

Figure 1: The Average Percentage of Students Reassigned in a Desegregation Plan

DATA

Sample and Data Collection

This study covers the period from Fall 1964 to Fall 1975 in 113 school districts in the U.S. chosen (because each had a study conducted in it) from the Permanent Community Sample, a national probability sample of all cities over 50,000.[2] The yearly composition of all schools in each school district was obtained from HEW's Office of Civil Rights survey for the years 1967-74. Data earlier than that and later than that were obtained by writing directly to the school districts. (HEW did not conduct a racial survey for Fall 1975 due to congressional cuts in funding.)[3]

Measuring School Desegregation

This study uses a different measure of school desegregation than has been commonly used in the past. The measure used is the reassignment of black and white students by a local governmental body or court for the purposes of school integration. The advantage of looking at school desegregation in this way is that we can differentiate between the impact of white reassignments to formerly black schools and black reassignments to white schools.

Data through Fall 1972 were collected by means of a mail questionnaire that listed a district's biracial schools (at least 10 percent black and 10 percent white in the North and 5 percent black and 5 percent white in the South) and asked administrators to indicate the reason for their biracial character and the approximate date of any actions taken to adjust racial balance. The reassignment variables were computed as follows: the number of black and white students in a school in the year in which an action was taken was subtracted from the number in the same school during the preceding year. The difference was attributed to administrative action if it increased racial integration. This was aggregated to the school district level and standardized as the percentage of black and white students reassigned to other race schools.[4]

Additionally, an index of dissimilarity measuring the level of segregation, was computed for each school district.[5] A significant drop in the index is corroborating evidence of desegregation. Student reassignments are highly related to change in the index of dissimilarity. The correlation is -.69 with the percentage of whites reassigned to formerly black schools, and -.84 with the percentage of blacks reassigned to white schools. If we regress change in white enrollment on student reassignments, as shown in Table 1, we can predict the effect of white and black reassignments on the level of segregation in a school district. According to the logic of the index of dissimilarity, in a perfectly rational system, reassigning five percent of the black students to white schools should result in a reduction of five percentage points in the index. This is also true of white reassignments to black schools. The fact that a given proportion of black or white reassignments does not result in exactly the same reduction in segregation is the result of measurement error in calculating black and white reassignments from school district questionnaires and school enrollment data, and the fact that students are not always reassigned in the most technically rational manner for some very good political reasons. Still, the fit is quite good despite this.

HYPOTHESES

The general literature on central city white flight, as well as that on school desegregation and white enrollment change, suggest a number of hypotheses which can be tested by the available data. First, virtually all studies agree that the proportion black in a school system is an important determinant of white public school enrollment. If the proportion black in a school system is high, whites will avoid moving into that school district, and other whites may hasten their move to the suburbs or transfer their children to private schools.

Table 1

Predicting Change in the Index of
Dissimilarity with School Desegregation Reassignments[a]

Black Reassignments Only	Total Δ Segregation
5%	-7.7
10%	-11.4
15%	-15.1
20%	-18.8
25%	-22.5
30%	-26.2
40%	-33.6
50%	-41.0
60%	-48.4
White Reassignments Only	
2%	-5.5
5%	-7.8
10%	-11.6
15%	-15.3
20%	-19.1
25%	-22.9
30%	-26.7
Black and White Reassignments	
10% blacks, 2% whites	-12.9
10% blacks, 5% whites	-15.2
20% blacks, 5% whites	-22.6
30% blacks, 5% whites	-30.0
20% blacks, 10% whites	-26.4
30% blacks, 15% whites	-37.6
40% blacks, 20% whites	-48.7
50% blacks, 25% whites	-59.9
60% blacks, 25% whites	-67.3

[a]The prediction equation is Δ Seg = -3.997188-74.057011 BR% -75.600210WR%

In addition, various studies (Frey, 1977, Coleman, et. al., 1975b) have suggested that southern cities have higher rates of white suburbanization, and thus white public school enrollment decline, than northern cities. Although there is no direct evidence on this, it may be a function of greater sensitivity to the proportion black in a school system, as well as delayed industrialization resulting in delayed suburbanization.

The unemployment rate should be negatively related to changes in white enrollment. A high level of unemployment deters families from moving to a city and encourages residents to leave (Lowry, 1966; Greenwood, 1975). White enrollment also appears to be responsive to the social class of the school system population. The higher the income level or educational level of a school population, the less incentive for middle class parents to transfer their children to private schools or to relocate to another school system. In addition, the school system will be perceived as desirable to white families moving into the SMSA (Mayo, 1975; Jackson, 1975).

The common wisdom is that higher crime rates serve as an impetus to white middle class outmigration to the suburbs. Nevertheless, at least three studies have suggested there is no relation (Droettboom, 1971; Guterbock, 1976; Frey, 1977). Droettboom found moves associated with the perception of crime to be undertaken more often by low income individuals and to be associated with within-city relocation rather than suburban relocation. Still, the overwhelming belief that crime does cause middle class whites to move out serves as an incentive to test this effect.

During the 1960's and 1970's large densely populated cities grew more slowly than smaller cities (U.S. Bureau of the Census, 1975). Suburbs were generally perceived as more desirable than central cities by middle class, white populations. Therefore, we would hypothesize that the larger a school system, and the more densely populated a city,

the greater the negative change in white public school enrollment.

Several studies of school desegregation and white flight have found the difference in the segregation of a school district relative to the SMSA to be positively related to white enrollment change. (Farley, 1976; Coleman, et. al., 1975). In other words, the more desegregated a school district is relative to the SMSA, the more white movement out of the school district to other more segregated school districts.

There appears to be a linear trend toward greater white enrollment decline (Farley, 1976). In part, this may be a function of the measure: proportion white enrollment change. As the base gets smaller, even the same white enrollment loss will result in a larger proportional loss. Therefore, it is assumed the year will be positively related to the proportion white enrollment decline. There is evidence that the quality of education, in some objective sense, has an effect on the choice of schools or school systems by white middle class families (Bloom, Brown, and Jackson, 1975; Jackson, 1975). Thus, it is hypothesized that the higher the per pupil school expenditures, the lower the white enrollment decline.

Finally, we would expect the extent of desegregation reassignments to be related to white enrollment decline. The most recent studies indicate that the greater the reduction in segregation, the greater the reduction in white enrollment. However, the measure used here distinguishes between the effect of white reassignments to black schools and black reassignments to white schools. The few case studies that have examined this have found white reassignments to black schools to result in substantically larger white enrollment decline than black reassignments to white schools (Giles, Gatlin, and Cataldo, 1976; Lord, 1975).

The research on additional plan characteristics has been limited. Busing distances have been found to be unrelated to white enrollment change (Giles,

Gatlin, and Cataldo, 1976). Some of the variables calculated from the data collected in this study are so badly skewed, or highly correlated with the proportion of students reassigned, that they are misleading or unreliable. One variable that can be used is the grade level desegregated. We would expect greater white losses if a plan involves elementary schools than if it involves high schools because there is greater white opposition to elementary school desegregation (Taylor and Stinchcombe, 1977).

Finally, the literature suggests an interaction effect between the proportion black in a school district and the extent of desegregation (Coleman, 1975b; Farley, 1977). Therefore, we assume that similar desegregation reassignments will cause greater white enrollment decline in larger proportion black school districts than in smaller proportion black school districts.

This research suggests a basic analytic model, designed to explain the proportion change in white public school enrollment. The estimating equation is of the following form:

$$\Delta WE = a + b_1 (\%\ BLACK) + b_2 (REGION) + b_3 (CRIME) + b_4 (SIZE) + b_5 (DENSITY) + b_6 (SES) + b_7 (S.D./SMSA\ SEG.) + b_8 (UNEMPLOY) + b_9 (YEAR) + b_{10} (SCHOOL\ EXPEND.) + b_{11} (\%\ WH.\ REASS.) + b_{12} (\%\ BL.\ REASS.) + b_{13} (\%\ WH.\ REASS.\ X\ \%\ BLACK) + b_{14} (\%\ BL.\ REASS.\ X\ \%\ BLACK) + b_{15} (GRADE) + e$$

where

ΔWE is the proportion change in white enrollment from the previous year,

% BLACK is the proportion black in the school system,

REGION is a dummy variable indicating southern region of the country,

CRIME is the per capita crime rate,

SIZE is the school district population size,

DENSITY is the city population per square mile,

SES is the income and educational level of the city population,

S.D./SMSA SEG. is the ratio of school district segregation to SMSA segregation using the index of dissimilarity,

UNEMPLOY is the unemployment rate in the city,

YEAR is the year being analyzed,

SCHOOL EXPEND. is the per pupil school expenditures,

% WH REASS. is the proportion of white students reassigned to black or formerly black schools,

% BL REASS. is the proportion of black students reassigned to white or formerly white schools, and

GRADE is the grades involved in the desegregation plan.

A quasi-experimental, interrupted time series design is used in this analysis. This strengthens the inferences that can be made with regard to the effect of desegregation actions by allowing us to test for effects peculiar to the periods before, during, and after desegregation. Such a design necessitates determining one "major" desegregation year. For school districts that desegregated in two or three year sequential plans the first year of mandatory desegregation was chosen as the desegregation year, although it may have been the smallest reassignment of the total implementation period (e.g. Boston). For school districts that had several different desegregation plans separated by two or more years, the year of the largest reassignment was chosen as the desegregation year.

IMPLEMENTATION YEAR EFFECT

Appendix 1 shows the percentage white enrollment change before and after the major school desegregation plan. The school districts are divided into groups and within each group ordered by the sum of the percentage of black students reassigned to white schools (the first rounded off number in column 2) and the percentage of white students reassigned to formerly black schools (the second number in column 2) in the major desegregation year (which divides the pre and post desegregation white enrollment change in the table). Column 3 contains the change in the index of dissimilarity (from T-2) in the major desegregation year. The greater the negative change in the index, the greater the reduction in school system segregation. The last column in Appendix 1 contains the final (usually Fall 1975) index of dissimilarity.[6] The higher the index, the greater the segregation remaining in the school system. The third column from the end contains the residual white enrollment decline associated with the major desegregation plan predicted from the pre desegregation time series. The second to the last column indicates the statistical significance of this difference between predicted and actual enrollment in the desegregation year.[7] School districts that have implemented extensive desegregation are more likely to have a statistically significant (.05 or better) residual loss. Only three of the control school districts have a significant loss.

Table 2 shows the amount of white enrollment change associated with different levels of school desegregation, as well as the predicted T+0 white enrollment change, the T+0 difference between predicted and actual, and the significance of that difference. Only the two most extensive white reassignment plans have a significant loss, although in general, the difference between predicted and actual increases with each increment in reassignments even

TABLE 2

Pre and Post Desegregation % White Enrollment Change

Desegregation Plans	% White Enrollment Change Pre and Post Desegregation												Predicted % White Enrollment Change 0 Year	Difference Between Predicted & Actual	Significance
	-6	-5	-4	-3	-2	-1	0	+1	+2	+3	+4	+5			
≥16% Whites Reass.	-2.1	-1.9	-4.7	-5.4	-2.0	-4.3	-13.6	-6.8	-6.8	-2.7	-2.2	- .9	-4.6	-9.0	.005
5-<16% White Reass.	-2.1	-1.5	- .2	- .5	-3.8	-5.2	-15.9	-8.5	-3.0	-2.8	- .7		-3.2	-12.7	.005
0-<5% White Reass.	- .4	-1.6	- .4	-1.0	-2.3	-2.7	- 5.8	-4.5	-4.7	-3.5	-3.9	-2.9	-2.8	-3.0	.025
0 Whites, ≥15% Blacks Reass.	3.1	5.0	6.1	3.4	2.3	1.1	.2	- .8	1.1	-1.1	-1.2	-6.9	1.3	-1.1	N.S.
0 Whites, 5-<15% Blacks Reass.	0	- .2	- .5	-1.0	-3.5	- .8	- 2.7	-2.1	-2.2	-2.3	-2.6	-3.7	-1.2	-1.5	N.S.
0 Whites,>0- <5% Blacks Reass.		-5.8	-4.2	-1.4	-2.6	-3.4	- 2.2	-4.5	-4.3	-4.7	-5.6	-6.6	-1.6	- .6	N.S.
Control Group (0 Reass.)	-3.8	-3.4	-4.0	-5.3	-5.4	-4.3	- 4.9	-5.4	-7.3	-6.6	-7.8	-6.0	-5.4	- .3	N.S.

without controlling for other factors. Nevertheless, this increment in loss appears to be short term. Indeed, those school districts that reassigned the most white students seem to have less white enrollment decline in T+4 or later than would be expected from their pre desegregation trend. (This will be analyzed more formally later in the paper.)

After testing numerous equations, and eliminating unstable and unrelated variables,[8] the equations shown in Table 3 were derived. Equation 1 is the most parsimonious of those with the proportion of black and white students reassigned as the desegregation variable. As with all equations, the proportion black in a school district is far and away the most significant variable predicting white enrollment losses. It vastly overshadows any desegregation variables. If we compare equation 1 to equation 2 (comparable to Coleman's and Farley's simplest equations), we can see the change in segregation (index of dissimilarity) obscures the differential impact of black and white reassignments. Equation 2 is also unsatisfactory because it does not take into account past reassignments, yet this type of single year analysis is typical of previous studies. While T-1 and T-2 white reassignments have some residual importance, T-1 and T-2 black reassignments have a zero coefficient. Even black reassignments in the year of implementation have an insignificant standardized regression coefficient of -.07.

Another important variable is the central city school district/SMSA segregation ratio indicating that the more segregated the SMSA is relative to the central city in the year of implementation, the greater the white enrollment decline. The unemployment rate is positively related to white enrollment loss, reflecting relocation in search of jobs, a phenomenon which is much more characteristic of whites than of blacks (McAllister, Kaiser, and Butler, 1971). The crime rate is insignificantly negatively

Table 3

Predicting % White Enrollment Change T+0

	Eq. 1		Eq. 2		Eq. 3		Eq. 4	
	b	Beta	b	Beta	b	Beta	B	Beta
% Black T-1	-.191* (.032)[b]	-.56	-.206* (.031)	-.60	-.273* (.117)	-.80	-.296* (.053)	-.87
Southern City	-.041* (.025)	-.16	-.055* (.022)	-.22	-.039* (.025)	-.15	-.037* (.024)	-.14
Unemployment Rate	-.340 (.310)	-.09	-.470* (.310)	-.13	-.330 (.310)	-.09	-.450* (.300)	-.13
Crime Rate	-.257 (.37)	-.06	-.321 (.372)	-.08	-.233 (.376)	-.06	-.124 (.365)	-.03
L_{10} % Whites Reass. T-2	-.011 (.029)	-.04	a		-.015 (.029)	-.05	-.013 (.028)	-.05
L_{10} % Whites Reass. T-1	-.049* (.027)	-.17	a		-.045* (.027)	-.16	-.046* (.026)	-.16
S.D./SMSA seg. ratio	.07* (.02)	.24	.06* (.03)	.20	.070* (.029)	.23	.064 .028	.21
L_{10} % Whites Reass.	-.020* (.011)	-.22	a		-.009 (.018)	-.11	-.014 (.011)	-.15
L_{10} % Blacks Reass.	-.002 (.009)	-.03	a		-.002 (.009)	-.03	-.002 (.008)	-.02
L_{10} % Wh. Reass. x % Blk.	a		a		.031* (.043)	-.27	a	
L_{10} % Wh. Reass. x ≥35% Black	a		a		a		-.021* (.009)	-.36
Δ Seg. Index	a		.0012* (.0004)	.28	a		a	
Constant	-.246		.195		-.225		-.206	
r^2	.59		.55		.59		.62	
Observations	109		107		109		109	

*Significant at .05 or better : F ratio.
[a]Not entered in equation
[b]Numbers in parentheses are the standard error of the b.

related to white enrollment change, although the zero order correlation is -.31.

Another hypothesis not supported by the data is that per pupil expenditures are positively related to enrollment change. This is not the case even in years prior to implementation, either at the zero order level or in the multiple regression equations. This may be due to the fact that since the Elementary and Secondary Education Act of 1965, central city school districts have had fairly high per pupil expenditures relative to the suburbs. Despite this, they are still perceived as undesirable by white middle class families, primarily because of their class and racial composition. Education, income, and size also have no significant relationship to white enrollment change.

The implementation year has no effect either. This is an important finding because it indicates plan characteristics are the cause of negative impacts, not the time period. When the proportion of whites reassigned is controlled for, the year has no independent effect.

Equation 3 in Table 3 shows the result of adding an interaction effect. This interaction variable is based on the assumption that similar white reassignments to black neighborhoods will cause greater white enrollment losses as the black proportion gets larger. The psychological explanation for this is that white parents perceive the black ghetto as a more threatening and dangerous place, the larger it is and the greater the probable proportion black in the receiving school, based on the city proportion. While equation 3 supports this assumption, the coefficients being strong and statistically significant, we can see that equation 4 is actually a better explanation of the effect of a large percentage black in a school district.[9]

Equation 4 tests for a proportion black "threshold effect." This is suggested by the research of Giles, Gatlin, and Cataldo (1976: V-9). They

found that while the rejection rate of whites increased when the school they were reassigned to was 30 percent or more black, it did not continue to increase very much once that threshold had been crossed. Equation 4 supports this finding, although the threshold observed here is 35 percent black. This suggests an important distinction between the social dynamics of a changing neighborhood, whence came the tipping point theory, and centrally administered school desegregation. In the latter situation, there is not a great deal of difference between a school that is 35 percent black and one 50 percent black to a parent willing to send his children to a 35 percent black school. This is because the school's racial balance is centrally controlled. Unlike schools in changing neighborhoods, the proportion black in that school is "guaranteed" by the school administration, relatively stable over time, and usually reflective of the citywide proportion rather than of a racially changing neighborhood.

All equations are a failure in predicting Memphis's desegregation loss--the best equation (4) only predicts a loss rate of -24 percent when in fact, Memphis had a loss rate of -35 percent upon desegregation.[10] The equations conservatively predict desegregation loss in those school districts like Boston, Louisville, Memphis, Pontiac, and San Francisco which had a great deal of protest and violence associated with desegregation. (In another analysis of a sub-sample of ten cities I found protest to have an independent effect on white loss. See Rossell, 1978.) In addition, all equations over-estimate the amount of white enrollment change in Berkeley. According to these equations Berkeley normally should have had almost four times the annual white enrollment loss that it did for a school district that was 45 percent black. It was not until they desegregated that they assumed this "normal" loss rate. While this is a school desegregation effect, only the time series estimate in Appendix 1 accurately predicts that.[11]

Because of problems of multicollinearity, we are left in the dark regarding interaction effects between black reassignments and the percentage black in a school district. One way of testing this is to select for analysis only those school districts that did not mandatorily reassign whites. This will not resolve the problem of how much the white reassignment interaction effect masks a black reassignment interaction effect, but it will be useful in determining if there is such an effect. The proportion whites reassigned voluntarily--usually to magnet schools--has no relationship whatsoever to percentage white enrollment change. This equation gives a better estimate of loss rates for school districts that only reassign black students and are at or above 35 percent black than Equation 4 in Table 3.

Tables 5, 6 and 7 indicate the percentage white enrollment change for hypothetical student reassignments broken down by the scope of the school district: northern city, countywide, and southern city. Because the school districts in Tables 6 and 7 are at or above 35% black, the equation shown in Table 4 was used to predict the white enrollment change for plans with only black student reassignments. This includes the black reassignment/35% black interaction effect. Equation 4 in Table 3 was used to predict the white enrollment change for white only reassignments and two way plans. It should be noted that the white only reassignment plan predictions are merely developed in

Table 4

Predicting % White Enrollment Change T+0 in School Districts With No Mandatory White Reassignments

	b	Beta
% Black T-1	-307* (.068)	-1.13
Southern City	-.050 (.046)	- .16
Unemployment Rate	-.480 (.540)	-.13
S.D./SMSA Seg. Ratio	.042 (.050)	.12
L_{10} % Blacks Reass. T-1	-.007 (.032)	- .05
L_{10} % Blacks Reass. T-2	-.005 (.029)	- .04
L_{10} % Blacks Reass. T+0	.004 (.011)	.06
L_{10} % Blacks Reass. x " ≥ 35% Black"	-.027 (.012)	- .54
Constant	.001	
r^2	.57	
Observations	66	

*Significant at .05 or better

[a]Not entered in equation

[b]Numbers in parentheses are the standard error of the b.

Table 5

Predicting % White Enrollment Change With School Desegregation Reassignments for School Districts 15% Black[a]

			Northern City	Northern, Southern County	Southern City
SMSAR[b] = .81		No. Reassignments	-.7	.5	-4.3
School Desegregation					
SMSAR = .71	No Whites Reassigned	5 % blacks reass.	-1.6	.3	-5.3
SMSAR = .66		10 % blacks reass.	-1.9	.2	-5.6
SMSAR = .56		20 % blacks reass.	-2.7	.2	-6.3
SMSAR = .46		30 % blacks reass.	-3.3	.1	-6.9
SMSAR = .34		40 % blacks reass.	-4.1	.1	-7.8
SMSAR = .27		50 % blacks reass.	-4.6	.09	-8.2
SMSAR = .71	No Blacks Reassigned	5 % whites reass.	-3.7	-1.8	-7.3
SMSAR = .66		10 % whites reass.	-4.5	-2.2	-8.0
SMSAR = .56		20 % whites reass.	-5.4	-2.6	-9.1
SMSAR = .46		30 % whites reass.	-6.3	-2.9	-10.0
SMSAR = .61		10 % blacks, 5% whites	-4.6	-2.1	-8.3
SMSAR = .51		20 % blacks, 5% whites	-5.3	-2.2	-9.0
SMSAR = .41		30 % blacks, 5% whites	-6.0	-2.2	-9.6
SMSAR = .24		40 % blacks, 10% whites	-7.5	-2.6	-11.2
SMSAR = .09		50 % blacks, 15% whites	-8.7	-2.9	-12.4
SMSAR = .04		50 % blacks, 20% whites	-9.2	-3.1	-12.9
SMSAR = .00		60 % blacks, 25% whites	-9.6	-3.2	-13.3

[a]This is equation 4 of Table 3. The following variables are held constant at the mean: crime rate (.060), unemployment (.051), T-2 White reassignments (0), T-1 White reassignments (0) and % black is set at .150 while the desegregation variables are varied as shown.

[b]The county SMSAR is set at a constant of 1.0. For non-county northern and southern school districts the mean pre-desegregation for this group of school districts is the base. Subsequent reductions of the ratio are reductions of the mean city index of dissimilarity according to the formula Δseg = -3.997 - 74.057 BR% - 75.600 WR% holding the SMSA index constant at .81.

Table 6

Predicting % White Enrollment Change With
School Desegregation Reassignments for
School Districts 35% Black

			Northern City	Northern, Southern County	Southern City
TABLE 4:School Districts With No Mand. White Reassignments[a]					
SMSAR = .81[c]	No Whites Reassigned	No Reassignments	-2.2	1.7	-7.2
SMSAR = .72		5 % blacks reass.	-6.2	-2.2	-11.2
SMSAR = .67		10% blacks reass.	-6.8	-2.9	-11.9
SMSAR = .58		20% blacks reass.	-7.6	-3.6	-12.6
SMSAR = .49		30% blacks reass.	-8.0	-4.0	-13.0
SMSAR = .39		40% blacks reass.	-8.3	-4.3	-13.4
SMSAR = .30		50% blacks reass.	-8.6	-4.5	-13.6
EQ. 4, TABLE 3:All School Districts[b]					
SMSAR = .81	No Blacks Reassigned	No reassignments	- .2	1.0	-3.9
SMSAR = .72		5 % whites reass.	-6.8	-5.0	-10.4
SMSAR = .67		10% whites reass.	-8.1	-6.0	-11.8
SMSAR = .57		20% whites reass.	-9.8	-7.1	-13.5
SMSAR = .48		30% whites reass.	-11.0	-7.7	-14.7
SMSAR = .62		10% blacks, 5% whites	-7.7	-5.3	-11.4
SMSAR = .53		20% blacks, 5% whites	-8.4	-5.3	-12.0
SMSAR = .44		30% blacks, 5% whites	-9.0	-5.4	-12.6
SMSAR = .30		40% blacks, 10% whites	-10.9	-6.4	-14.6
SMSAR = .16		50% blacks, 15% whites	-12.4	-7.1	-16.1
SMSAR = .11		50% blacks, 20% whites	-13.2	-7.5	-16.9
SMSAR = .00		60% blacks, 25% whites	-14.3	-7.8	-17.9

[a] Crime rate and unemployment set at mean and previous reassignments 0.

[b] Equation 4 of Table 3, see description in footnote a, Table 5.

[c] Calculation described in footnote b, Table 5.

Table 7

Predicting % White Enrollment Change With School Desegregation Reassignments for School Districts 55% Black

		Northern City	Northern, Southern County	Southern City
TABLE 4: SCHOOL DISTRICTS WITH NO MAND. WHITE REASSIGNMENTS[a]				
SMSAR = .90[c]	No Reassignments	- 8.3	- 8.2	-13.3
SMSAR = .81	5 % blacks reass.	-12.3	-12.2	-17.3
SMSAR = .77	10% blacks reass.	-13.0	-12.8	-17.8
SMSAR = .68	20% blacks reass.	-13.7	-13.5	-18.7
SMSAR = .59	30% blacks reass.	-14.1	-13.9	-19.2
SMSAR = .50	40% blacks reass.	-14.5	-14.2	-19.5
SMSAR = .41	50% blacks reass.	-14.7	-14.4	-19.7
EQ. 4, TABLE 3: ALL SCHOOL DISTRICTS[b]				
SMSAR = .90 (No Whites Reassigned)	No Reassignments	- 5.5	- 4.7	- 9.2
SMSAR = .81 (No Whites Reassigned)	5 % whites reass.	-12.1	-10.9	-15.8
SMSAR = .76 (No Whites Reassigned)	10% whites reass.	-13.5	-11.9	-17.1
SMSAR = .67 (No Whites Reassigned)	20% whites reass.	-15.1	-13.0	-18.8
SMSAR = .58 (No Whites Reassigned)	30% whites reass.	-16.3	-13.6	-19.9
SMSAR = .72 (No Blacks Reassigned)	10% blacks, 5% whites	-13.0	-11.2	-16.7
SMSAR = .63 (No Blacks Reassigned)	20% blacks, 5% whites	-13.6	-11.3	-17.3
SMSAR = .54 (No Blacks Reassigned)	30% blacks, 5% whites	-14.2	-11.3	-17.9
SMSAR = .41 (No Blacks Reassigned)	40% blacks, 10% whites	-16.1	-12.4	-19.8
SMSAR = .28 (No Blacks Reassigned)	50% blacks, 15% whites	-17.6	-13.0	-21.3
SMSAR = .23 (No Blacks Reassigned)	50% blacks, 20% whites	-18.4	-13.4	-22.0
SMSAR = .09 (No Blacks Reassigned)	60% blacks, 25% whites	-19.7	-13.8	-23.3

[a]Crime rate and unemployment set at mean and previous reassignments 0.

[b]Equation 4 of Table 3, see description in footnote a, Table 5.

[c]Calculation described in footnote b, Table 5.

order to compare them to the black only plans. No school district has ever reassigned only whites and probably never will. All the equations underestimate the percentage white enrollment change for school districts with no reassignments. Therefore, it may be more instructive to use the 5 percent black reassignments as the base line for comparing the "cost" of additional reassignments.

Several things stand out in these tables. First, the negative effect of a given proportion of white reassignments is almost double that of the same proportion of black reassignments. Second, the negative effect of school desegregation on white enrollments is much less in countywide school districts. In Table 4, we can see the loss rate for northern school districts reassigning 5 percent of their whites almost tripled with an increase to 60 percent black, 25 percent white reassigned whereas the countywide school districts had less than a doubling. If we consider both proportional change and absolute enrollment change, countywide school districts have demonstrably less negative effects when they desegregate.

Finally, because the equation contains a dummy variable for southern city school districts, we can examine the differential loss rates in those school districts. The data demonstrate higher loss rates for southern city school districts even for similar levels of proportion black and in the absence of school desegregation. This is substantiated by findings by Frey (1977) that southern cities had higher levels of white suburbanization than northern cities in the 1965-1970 period. He argues this had little or no relationship to racial factors. The South may be going through its period of rapid suburbanization a decade or so later than the North. There also may be an interaction effect between school desegregation reassignments and white flight that cannot be isolated because of multicollinearity and sampling fluctuations.

POST IMPLEMENTATION EFFECT

Phasing in Desegregation

Because most of the comparative analyses of school desegregation and white flight have been pooled time series cross-sectional analyses, no one has thought to examine whether phasing in a plan over a two or three year period has any impact on change in white enrollment, controlling for the total amount reassigned. As Appendix 1 indicates, many school districts do indeed phase in their school desegregation plans. (This is also indicated by an asterisk attached to the yearly percentage white enrollment change).[12]

One way of analyzing the effect of phasing in a plan is to use the total three year white enrollment change $(T+0 - T-1)+(T+1 - T+0)+(T+2 - T+1) \ /T-1$ as the dependent variable and dummy variables denoting one year or multiple year white or black reassignment plans.[13] The results of this analysis are shown in Table 8. Although the coefficients are not very reliable, this analysis indicates that phased in plans result in more white flight than one year plans even when the total amount reassigned and the interaction effect are controlled for. If a school district reassigns 40 percent of its black students, and 10 percent of its white students over a two or three year period, instead of a one year period, it will have an additional 4 percentage point white enrollment loss.

Long Term Impact

A. White Enrollment Change. Table 9 shows the zero order correlations, and the partial correlations controlling for percent black, between three measures of desegregation and white enrollment change in the years before and after school desegregation. This analysis suggests that, even without controlling for subsequent reassignments, school desegregation's effect on white enrollment is negative only in the year of implementation, or the

Table 8

The Effect of Phasing In Plans on Total
% White Enrollment Change
(T+0, T+1, T+2)

	b	Beta
Average % Black	-.531* (.105)	-.91
Southern City	-.064* (.042)	-.14
Unemployment Rate	-.973 (.760)	-.13
SD/SMSA Seg. Ratio	.145* (.054)	.29
L_{10} % Whites Reass.	.002 (.035)	.02
L_{10} % Blacks Reass.	.009 (.027)	.08
L_{10} % Whites Reass. x ≥.35% Black	-.022 (.017)	-.22
One Year Black Reass. Plan	.011 (.049)	.04
One Year White Reass. Plan	-.025 (.051)	-.09
Two or Three Year White Reass. Plan	-.057 (.063)	-.17
Two or Three Year Black Reass. Plan	.005 (.075)	.01
Constant	-.020	
r^2	.64	
Observations	101	

[a]Significant at .05 or better.

Table 9

Correlations of School Desegregation T+0 With % White Enrollment Change

Zero Order	YEAR T-2	T-1	T+0	T+1	T+2	T+3	T+4	T+5
L_{10} % Whites Reass. T+0	.12	-.03	-.45	-.08	.09	.14	.26	.38
L_{10} % Blacks Reass. T+0	.26	.16	-.18	.09	.30	.27	.34	.43
Δ Segregation T+0	-.29	-.15	.27	-.13	-.24	-.21	-.30	-.48
N	97	106	109	108	104	95	77	39
Controlling for Percent Black								
L_{10} % Whites Reass. T+0	.17	0	-.50	-.06	.10	.14	.29	.48
L_{10} % Blacks Reass. T+0	.16	-.04	-.41	-.07	.20	.16	.23	.40
Δ Segregation T+0	-.24	-.06	.44	-.06	-.19	-.15	-.25	-.51
df	93	103	105	105	101	90	73	36

year after if there have been white reassignments.[14]

The multiple regression equations shown in Table 10 present a somewhat different pattern, although the coefficients are not very reliable.[15] These equations suggest that for school districts that are less than 35 percent black there is virtually no desegregation impact by T+2. Indeed, the net impact is positive. For school districts greater than 35 percent black a net positive impact does not occur until T+4. If we can trust the rather unreliable coefficients, all school districts that have desegregated (even with the most extensive two way reassignment plan) have less white enrollment loss by T+4 than would be predicted from their school system characteristics.

There are several plausible, but unproveable, explanations for this seemingly positive effect of school desegregation on white enrollment. One possibility is that districtwide plans offer a guarantee of racial balance that might substantially reduce the suburban relocation or private school enrollment of white students living in transitional or fringe areas. With a citywide plan, such "transitional" schools may have a reduction in proportion black to the citywide proportion, thus reducing the "push" factor.

In addition, it is possible that if there is a greater than normal loss in one or two years, there will be a less than normal loss in subsequent years because there is only so much available housing and private schooling in an SMSA. In other words, the "pull" factor is reduced. It is also possible that whites return to the public schools around T+4, when the plan has settled into routine operation and the cost of private schooling becomes a greater and greater burden.[16]

If school desegregation continues to have this positive effect on white enrollment in post implementation years in school districts less than 35 percent black, the implementation year loss should eventually be made up.

Table 10

Effect of School Desegregation on % White Enrollment Change in Subsequent Years

	T+1		T+2		T+3		T+4	
	b	Beta	b	Beta	b	Beta	b	Beta
% Black Year Before	-.216* (.051)	-.86	-.209* (.054)	-.87	-.185* (.067)	-.78	-.294* (.086)	-.92
Southern City	-.017 (.020)	-.09	-.004 (.021)	-.02	.019 (.028)	.10	-.008 (.034)	-.03
Unemployment Rate Year Before	-.360 (.310)	-.13	-.495* (.320)	-.16	.018 (.420)	.01	-.603 (.550)	-.16
Crime Rate (1970)	.192 (.360)	.06	.139 (.375)	.05	.320 (.450)	.11	.619 (.594)	.16
SD/SMSA Seg Ratio	.044* (.025)	.20	.065* (.027)	.30	.038 (.034)	.18	.002 (.004)	.07
L_{10} % Whites Reass. T+0	.007 (.011)	.09	.003 (.011)	.04	-.00003 (.01421)	-.00	-.002 (.019)	-.03
L_{10} % Blacks Reass. T+0	-.0001 (.0009)	-.00	.013 (.009)	.21	.013 (.012)	.25	.016 (.015)	.23
L_{10} % Whites Reass. T+0 x ≥15% Black T-1	-.005 (.011)	-.11	.005 (.011)	.11	-.008 (.014)	-.19	-.0004 (.0182)	-.01
L_{10} % Whites Reass. T+1	-.026 (.019)	-.22	-.005 (.022)	-.04	.036 (.027)	.31	.021 (.036)	.14
L_{10} % Blacks Reass. T+1	.007 (.013)	.09	.007 (.013)	.09	-.008 (.016)	-.10	.012 (.023)	.12
L_{10} % Whites Reass. T+1 x ≥15% Black T+0	-.007 (.009)	-.17	-.018 (.014)	-.48	-.003 (.018)	-.07	-.009 (.024)	-.18
L_{10} % Whites Reass. T+2			-.039* (.026)	-.28	-.023 (.033)	-.17	-.020 (.043)	-.11
L_{10} % Blacks Reass. T+2			.009 (.014)	.12	-.002 (.018)	-.02	.006 (.023)	.06
L_{10} % Whites Reass. T+2 x ≥15% Black T+1			.002 (.013)	.06	.005 (.021)	.15	.011 (.027)	.23
L_{10} % Whites Reass. T+3					-.025 (.059)	-.06	-.030 (.075)	-.06
L_{10} % Blacks Reass. T+3					.011 (.020)	.08	-.003 (.028)	.01
L_{10} % Whites Reass. T+3 x ≥15% Black T+2					-.005 (.015)	-.14	-.220 (.018)	-.48
L_{10} % Whites Reass. T+4							a	
L_{10} % Blacks Reass. T+4							-.023 (.030)	-.17
L_{10} % Blacks Reass. T+4 x ≥15% Black T+3							a	
Constant	-.053		-.083		-.049		-.082	
r^2	.46		.54		.39		.47	
Observations	108		104		93		77	

[a]No cases

It would be useful to know if this loss is made up by T+4. This is tested in Table 11. The data indicate that school districts less than 35 percent which reassign only black students make up their implementation year loss by T+4. Indeed, this equation suggests less white enrollment decline with desegregation than without. The most extensive two way reassignment plan (60 percent black, and 25 percent whites reassigned) shows a small negligible difference between the five year enrollment change without desegregation and with desegregation. If the school district is countywide, there is less white enrollment decline with greater reassignments.

For school districts greater than or equal to 35 percent black, black only reassignments again result in less white enrollment decline than no reassignments at all.[17] Nevertheless, there is still a desegregation effect for two way reassignment plans in northern and southern city school districts. The most extensive plan results in an increase of five and a half percentage points in the loss that could be expected with no desegregation.

B. Change in Percentage White. Because one goal of school desegregation is racial balance, the change in proportion white should be as important as the change in white enrollment. Table 12 shows the five year change in proportion white (% white T+4 - %whiteT-1) and its relationship to the proportion reassigned and the interaction of proportion black with white reassignments. Although the equation is not very satisfactory, both desegregation variables are positively related to change in percentage white over this time period. If this is compared to the SMSA segregation ratio, the negative effect is small. A thirty-five percent black city school district need only expect an additional reduction of two percentage points in the proportion white, with an extensive two way busing plan (50 percent blacks, 15 percent whites). This means over the long run, school desegregation does not contribute much to increasing the proportion black--the single greatest

Table 11

Five Year % White Enrollment Change (T-1 to T+4)

	b	Beta
Average % Black	-.652* (.151)	-.81
Average Unemployment Rate	-2.48* (1.14)	-.22
Southern City	-.081 (.059)	-.13
Crime Rate	-.059 (1.003)	-.01
SD/SMSA Seg. Ratio	.092 (.070)	.13
L_{10} (T+0, T+1, T+2 Whites Reassigned)	-.002 (.030)	-.01
L_{10} (T+0, T+1, T+2 Blacks Reassigned)	.025 (.024)	.16
L_{10} (T+0, T+1, T+2 Whites Reassigned) x ≥.35 Black	-.019 (.024)	-.14
L_{10} (T+0, T+1, T+2 Blacks Reass.) x ≥.35 Black	a	
Constant	.094	
r^2	.61	
Observations	73	

[a]Not in equation
*Significant at .05 or better

Table 12

Five Year Change in % White (T-1 to T+4)

	b	Beta
Average % Black	-.028 (.056)	-.13
Average Unemployment Rate	.112 (.420)	.04
Southern City	-.035* (.022)	-.22
Crime Rate	-.440 (.368)	-.17
SD/SMSA Seg. Ratio	.059* (.026)	.33
L_{10} (T+0, T+1, T+2 Whites Reass.)	.005 (.011)	.09
L_{10} (T+0, T+1, T+2 Blacks Reass.)	-.003 (.009)	-.07
L_{10} (T+0, T+1, T+2 Whites Reass.) x .35 Black	.009 (.009)	.25
L_{10} (T+0, T+1, T+2 Blacks Reass.) x .35 Black	a	
Constant	-.068	
r^2	.26	
Observations	73	

[a]Not in equation

[b]Significant at .05 or better

predictor of white enrollment decline.

Conclusions: Measuring the Effectiveness of School Desegregation

Rossi (1972) notes there are two ways in which the term effectiveness can be used. In the policy analysis context, the term means some balance between costs and benefits. In the evaluation context, it means the ability of a program to achieve any effects at all, regardless of the costs or benefits involved.

A. Net Costs. Because there is a constitutional obligation to desegregate the schools, the effectiveness of school desegregation cannot be judged in the same way one would judge other programs. Therefore, our standard should be the ability of a program to achieve any effects at all, regardless of the costs or benefits involved. Nevertheless, the indirect costs of school desegregation have been specified in the preceding sections, and it is possible to determine which reassignments are most efficient. Table 13 estimates the maximum costs for any desegregation plan by illustrating the losses in school districts that are above and below 35 percent black and in city and large countywide school districts. The change in segregation is calculated from the equation shown in Table 1.

Table 13 indicates that, even in 35 percent black school districts, black reassignments have no indirect costs up to 20 percent black reassigned. White reassignments have their greatest costs at 5 percent or less. Therefore, if a policymaker is going to reassign white students, it may be most "efficient" to reassign 15 percent of more because the ratio of output to indirect costs is greatest at that level.

B. Net Benefits. In order to evaluate the effectiveness of school desegregation, it is necessary to measure the net benefit in black interracial

Table 13

Five Year (T-1 to T+4) Additional % White Enrollment Change Associated With Desegregation

% Reassigned	Δ Segregation	Cumulative			
		<35% Black		≥35% Black	
		City	Large County	City	Large County
Blacks Only					
5	- 7.7	+3.3	+4.3	+3.3	+4.3
20	-18.8	+3.5	+5.8	+3.5	+5.8
40	-33.6	+2.2	+6.5	+2.2	+6.5
Whites Only					
5	- 7.8	-1,3	- .3	-4.6	-3.7
20	-19.1	-2.8	- .4	-6.6	-5.0
40	-34.2	-3.7	- .5	-8.9	-5.6
Black/White Reass.					
10/5	-15.2	+2.8	+4.7	- .6	+1.3
30/5	-30.0	+2.5	+6.1	-1.2	+2.5
50/15	-52.4	- .3	+6.3	-4.6	+2.0
60/25	-67.3	- .9	+6.5	-5.7	+1.8

contact with whites. We can calculate black contact with whites, or the proportion of white children in the average black child's school, by the following formula:

$$s_{bw} = \frac{\sum_k n_{kb} p_{kw}}{\sum_k n_{kb}}$$

where n_{kb} is the number of blacks in a given school, and p_{kw} is the proportion white in the same school (Coleman, et. al., 1975b).

Table 14 has three equations predicting black interracial contact with whites with school desegregation. Equation 1 includes T+0 reassignments and the interaction effect, equation 2 all reassignments plus the interaction effect, and equation 3 includes only the total change in segregation. All equations show that school desegregation is associated with greater black interracial contact with whites, although the effect of black reassignments is much greater than the effect of white reassignments. It is interesting that the net benefit in black interracial contact with whites is greatest for school districts at or above 35 percent black, despite the fact that these school districts bear the greatest white enrollment losses. Equation 2 includes all reassignments in T+0, T+1, and T+2. The findings are very similar to those in Equation 1.[18]

Equation 3 includes change in the index of dissimilarity from T+2 to T-2. This equation obscures the differential effect of black and white reassignments, but it indicates that for every reduction of 10 points in the index of dissimilarity ($\bar{X} = -18.3$), we can expect an increase of 4 points in the proportion white in the average black child's school.

Table 14

Predicting Black Contact With Whites (Proportion White in Average Black Child's School) With School Desegregation

	Eq. 1		Eq. 2		Eq. 3	
	b	Beta	b	Beta	b	Beta
% Black	-.676* (.176)	-.59	-.705* (.163)	-.62	-.759 (.082)	-.66
Unemployment	-.452 (1.095)	-.03	-.542 (1.101)	-.04	.509 (1.03)	.03
Crime Rate	-.732 (1.141)	-.05	-.612 (1.129)	-.04	-.928 (1.011)	-.07
Southern City	-.106* (.064)	-.12	-.111* (.064)	-.13	-.096* (.057)	-.11
L_{10} % Whites Reass. T+0	.019 (.034)	.04				
L_{10} % Blacks Reass. T+0	.054* (.026)	.22				
L_{10} % Whites Reass. T+0 x $\geq$.35 Blacks	.024 (.028)	.12				
L_{10} (T+0, T+1, T+2 % White Reass.)			.018 (.033)	.06		
L_{10} (T+0, T+1, T+2 % Blacks Reass.)			.046* (.026)	.20		
L_{10} (T+0, T+1, T+2 % Whites Reass.) x $\geq$.35 Black			.020 (.026)	.11		
Δ Segregation (T+2-T-2)					-.0045* (.0009)	-.37
Constant	.814		.820		.581	
r^2	.69		.69		.73	
Observations	105		105		101	

Table 15 shows the net benefits in black contact with whites for different hypothetical reassignment plans. Using the same reassignments as shown in Table 13, we can see that every desegregation plan has a net benefit--that is, benefits exceed costs. The greatest increment in interracial contact is shown with black reassignments of 10 percent and white reassignments of 5 percent. Clearly, there are diminishing returns with greater white reassignments. Still, the most extensive desegregation plan (60 percent blacks, 25 percent whites reassigned) continues to have a net benefit. Using Rossi's criterion for evaluation research, even the most extensive school desegregation plan is effective in obtaining the instrumental goal of black interracial contact with whites.

Summary

To summarize, the greatest indirect costs of school desegregation are in the year of implementation. Because post implementation year losses tend to be less than normal, assessing costs over a five year period indicates the total loss is reduced to zero or even a benefit in all but 35 percent or greater city school districts. In these school districts, the most extensive plans involving white reassignments can result in an additional five year white enrollment loss of almost 6 percent over the five year period.

These data also indicate that implementation year costs are greater when school desegregation plans are phased in, rather than completely implemented in one year. In addition, the evidence presented here shows change in proportion white to be minimally affected by school desegregation because of the tendency for black and white enrollment change to be positively correlated with each other.

Table 15

Net Benefit in Black Contact With Whites[a] (Proportion White in Average Black Child's School) for 35% Black School Districts

% Reassigned		Proportion White in Average Black Child's School	
Cumulative Total	Increment	Cumulative Total	Increment
BLACKS ONLY			
5	+ 5	+ .09	+ .09
20	+ 15	+ .12	+ .03
40	+ 20	+ .16	+ .04
WHITES ONLY			
5	+ 5	+ .07	+ .07
20	+ 15	+ .10	+ .03
40	+ 20	+ .11	+ .01
BLACK/WHITE REASSIGNMENTS			
10/5	+ 10/5	+ .18	+ .18
30/5	+ 20/5	+ .21	+ .03
50/15	+ 20/10	+ .24	+ .02
60/25	+ 10/10	+ .25	+ .01

[a] Calculated from Equation 1 of Table 14

Finally, all school desegregation plans show a net benefit in interracial contact, and paradoxically this benefit is greatest in school districts at or above 35 percent black despite the fact that these are the school districts with the greatest white enrollment losses.

Appendix 1

Percentage White Decline Before and After the Major School Desegregation Plan

School District	% Reassigned 0 Year Bl./Wh.	Δ Seg. Index 0 Year	-7 Yrs.	-6 Yrs.	-5 Yrs.	-4 Yrs.	-3 Yrs.	-2 Yrs.	-1 Yrs.	Major Plan Date	0 Year	+1 Yr.	+2 Yrs.	+3 Yrs.	+4 Yrs.	+5 Yrs.	+6 Yrs.	+7 Yrs.	Expected - Actual Diff. 0 Year	Signif of Diff. 0 Year	Final Seg. Index
NORTHERN COURT OR HEW ORDERED																					
Pasadena, Calif.	83/16	-51.8	-1.7	-1.7	-1.0	-2.4	+4.3	-4.2	-5.9	1970	-11.7	-13.3	- 9.6*	- 8.6	- 4.2	- 2.8			- 5.7	.005	.9
Pontiac, Mich.	63/20	-51.9		.5	1.4	-3.5	-3.6*	.7	-5.7*	1971	-18.1	- 2.9	- 6.0	- 3.8	.6				-13.1	.025	11.9
Oklahoma City, Ok.	49/8	-53.0	-1.3	- .9	-1.4	-1.6*	-8.6	-5.6*	-1.8	1972	-14.8	-11.3	- 7.7*	- 6.1					- 9.2	.05	24.3
Dayton, Ohio	25/24	-49.5	-3.8*	-5.1	-6.2	-8.5	-9.0*	-6.2	-5.9	1976	-15.6								- 7.6	.025	22.8
San Francisco, Calif.	37/5	-31.2			-8.4	-2.4	2.7	-11.6	-2.1*	1971	-15.6	- 8.0	-11.4	- 9.6*	- 9.1				- 8.9	N.S.	20.9
Wichita, Kan. (HEW)	42/2	-41.6		2.8*	-1.1*	- .6	-2.8*	-3.2*	-6.0*	1971	- 7.6	- 5.9	- 4.4	- 5.1	- 4.0				- 1.5	N.S.	17.0
Waukegan, Ill.	28/4	-12.9					-1.8	-6.6	1.7	1968	- .8	- 2.2	1.1	- 2.3	- 3.3	- 6.1	- 5.5	- 1.4	- 2.1	N.S.	59.5
Milwaukee, Wisc.	30/2	-23.0	-1.7	- .6	-4.0	-5.5	-6.6	-7.4	-5.9	1976	- 9.2								- 1.6	N.S.	54.9
Springfield, Mass.	19/5	-23.1	-4.7*	-1.6*	-2.6	-4.7	-4.2	-4.3*	-6.8	1974	- 6.6	- 3.5	- 4.9						- 1.8	N.S.	17.0
Boston, Mass.	12/8	-23.4	-1.6	-3.7	-2.9	-1.0	-4.2	-3.3	-6.6	1974	-14.9	-19.9*	-11.3						- 9.7	.0005	26.2
Denver, Colo.	17/3	- 7.7	-3.2	.8	-2.3*	-2.4	-5.4	-6.6*	-6.6	1974	-14.1	- 7.8							- 7.5	.01	41.7
Las Vegas, Nev.[a]	19/0	-21.9				7.6	4.2*	3.5*	- .1	1972	1.0	.8	2.0	.7					- 1.0	N.S.	21.9
Detroit, Mich.[b]	8/10	-11.3	-1.5	-9.4	-6.8*	-1.9*	-12.3	-12.6	-9.2	1975	-21.7	-15.1							-10.5	.025	62.3
Evansville, Ind.	15/1	-32.4	1.2	2.2*	-1.1	.7	-.4	-.8*	-2.6*	1972	- 3.9	- 3.3	- 3.3	- 4.0					- 2.3	N.S.	22.6
Indianapolis, Ind.	11/4	-14.6	.6	.6	-2.0	-2.5	-3.5*	-6.5*	-6.7	1973	- 9.8	- 6.2	- 5.2	- 4.6					- 2.8	N.S.	46.9
Erie, Pa.	11/0	- 9.9	-4.1	-2.7	-2.4	-2.7	-2.6	-5.1	-5.6	1975	-12.4								- 7.4	.005	25.8
Minneapolis, Minn.	9/1	- 4.7	-1.5	-1.3	-1.9*	-3.8*	-3.2*	-4.7*	-6.7	1973	- 6.6	- 6.1*	- 5.0						- .1	N.S.	44.3
Tulsa, Ok.	7/1	- 9.7		2.8	.7	0.	-3.8	- .7	-2.8*	1971	- 4.2	- 7.4*	- 6.2	- 5.4	- 2.8				- .1	N.S.	71.5
Baltimore, Md. (HEW)	2/4	- 6.2	-3.4	-3.1	-2.5	-3.2	-4.0*	-5.6	-4.9	1974	-13.5	- 9.6*							- 8.7	.0005	67.4
Waterbury, Ct.	4/0	- 1.9			-6.4	-2.0	- .2*	-1.4	-1.8	1973	- 1.2	- 1.8*	- 3.1						.4	N.S.	38.4
SOUTHERN COURT OR HEW ORDERED																					
Tampa, Fla.[a]	47/10	-52.4					2.3*	2.3*	1.9*	1971	- 3.1	6.3	5.8	.6	.6				- 4.8	.01	19.6
Louisville, Ky.[a]	46/9	-54.8	2.8	2.0	2.7	- .7	- .7*	-3.0	-6.3	1975	-11.5								- 6.7	.025	27.9
Memphis, Tenn.	23/9	-36.1			- .9	2.6*	20.0*	-6.3*	-13.3*	1973	-35.1	- 6.9	1.8						-28.1	.025	50.8
Charlotte, N.C.[a]	25/4	-58.5			3.6	.6	4.0	2.7*	1.6*	1970	- 4.6	- 3.3*	- 2.4	- 3.2	- 2.1	.2			- 6.5	.05	12.5

Appendix 1

Percentage White Decline Before and After the Major School Desegregation Plan

School District	% Reassigned Bl./Wh.	Δ Seg. Index 0 Year	-7 Yrs.	-6 Yrs.	-5 Yrs.	-4 Yrs.	-3 Yrs.	-2 Yrs.	-1 Yrs.	Major Plan Date	0 Year	+1 Yr.	+2 Yrs.	+3 Yrs.	+4 Yrs.	+5 Yrs.	+6 Yrs.	+7 Yrs.	Expected - Actual Diff. 0 Year	Signif. of Diff. 0 Year	Final Seg. Index
Nashville, Tenn.[a]	20/8	-43.9		1.7	0	1.1	.3	2.2*	-1.3*	1971	-10.5	-4.2	-3.4	-2.9	-2.0				-12.0	.005	40.4
Lexington, Ky.[a]	23/4	-30.8			*	3.0*	2.1*	1.3	- .7	1972	- 1.7	-1.4	- .6						- 2.9	N.S.	29.9
Tyler, Tex. (HEW)	21/4	-45.0				.4	- .6	1.3*	.8*	1970	- 2.8	- .9	-3.9	2.5	- .8	-1.1			- 4.1	.05	44.8
Waco, Texas	24/1	-22.5					-1.5	-2.6*	-2.4*	1971	- 6.3	-5.5*	-11.2*	-8.5					- 3.8	N.S.	14.0
Amarillo, Tex. (HEW)	20/.3	-35.8				-5.5*	-2.8	-2.7*	-3.1	1972	- 4.3	.9	- .9	-1.2					- 2.6	N.S.	39.8
Montgomery, Ala.[a]	20/1	-36.7					- .3[f]	- .3*	- .9*	1970	- 7.6	-1.0*	-2.4*	-3.1	-4.6				- 6.5	.025	41.9
Shreveport, La.[a]	17/2	-28.4					4.3[f]	4.3	-5.7*	1970	-14.7	-2.3	-2.4	-7.5	- .2	- .9			- 5.6	N.S.	62.8
Austin, Tex.	18/0	-21.8	5.8	3.0	5.7	9.2	6.1*	1.2*	3.0*	1971	1.2	-1.7	5.0*	- .6	- .6				0	N.S.	48.9
Baton Rouge, La.[a]	14/3	-18.8			-5.5	12.3	5.0	4.5	2.9	1970	- 4.3	1.7*	2.2*	- .6	.9	1.8			-10.7	N.S.	72.2
Birmingham, Ala.	11/1	-17.2	-2.3	-1.9	-2.5	-2.7	- .6	-3.3	-3.9	1970	-10.0	-7.5*	-10.2	-11.1	-7.2	-7.9			- 5.3	.005	79.8
Mobile, Ala.[a]	11/1	-22.1					-1.1[f]	-1.1	-1.2	1969	- 3.2	-9.3*	-8.1*	1.1	-2.0	- .9	-2.5		- 2.0	.025	55.2
St. Petersburg, Fla.[a]	8/2	-14.2					4.2[f]	4.2	4.6*	1970	3.9	1.8*	4.3*	2.1	- .8	- .7			- .8	N.S.	26.8
Fort Worth, Texas	8/1	-14.4		- .7	1.7	-6.4	.8	-1.0	-2.3	1971	- 7.9	-5.5*	-9.0*	-7.0	-4.4				- 4.7	N.S.	44.9
Jacksonville, Fla.[a]	6/2	-14.3					.3[f]	.3	1.5*	1970	- 3.2	-6.5*	-5.3*	-2.7	.2	11.2			- 5.1	N.S.	27.6
Houston, Texas	5/3	- 7.3	4.8	2.7	3.5	1.2	3.0	-1.2*	-5.1*	1970	- 4.2	-9.7*	-8.6	-10.7	-4.9	-10.0*			- 4.6	.01	74.4
Miami, Fla.[a]	4/3	-15.0				1.7	.5	-1.0	1.2*	1970	- 5.7	-2.8	-7.1	-4.2	-4.1	-4.0			- 5.6	N.S.	62.2
Lubbock, Tex. (HEW)	4/1	- 4.6					-3.6[f]	-3.6*	-2.6	1970	- 2.2	-3.2	-4.7	1.5	-1.6	-1.6			.2	N.S.	88.5
Atlanta, Ga.	4/0	- 6.3			-8.1*	-7.5*	-16.0*	-16.2	-21.7	1973	-26.2	-26.0	-8.5						- 1.5	N.S.	74.2
NORTHERN BOARD ORDERED CITYWIDE PLANS																					
Berkeley, Calif.	42/16	-32.9				-4.4*	-4.6	1.7	.3	1968	- 9.0	-4.2	-4.8	- .9	- .1	-2.2	-2.2	-6.2	-11.6	.05	2.3
Fort Wayne, Ind.	35/0	-19.5		3.3	4.2	3.0	.7	3.3	- .5	1971	0	-2.6	-3.5	-3.2	-2.3				- 2.1	N.S.	52.1
Providence, R.I.	24/0	*								1967		-1.3	-2.0	-3.5	-6.2	-6.2	-6.4	-6.0			22.0
Riverside, Calif.	21/0	-27.3							.7*	1966	- .5	1.8*	1.8	.4	- .7*	-6.9	-4.8	-3.2			23.6
Waterloo, Iowa	17/2	-12.4				- .5	-2.1	-1.7*	-2.9	1973	- 6.6	-3.5	-3.7						-1.1	N.S.	48.8
Stamford, Ct.	13/0	-12.9			1.0	1.6*	3.3	- .2*	.3	1970	- 2.8	-2.0	-3.5	-4.3	- 3.2				-3.1	N.S.	21.1
Niagara Falls, N.Y.	10/2	- 4.4					-2.8*	-2.8*	-3.1	1970	- 5.6	-1.2	-1.9	-4.5	-5.4	-5.9			-2.5	.025	24.7
Muncie, Ind.	12/0	- 8.8				-1.6	2.8	-5.7	-1.1	1972	- 3.3	-7.1	-2.6						- .2	N.S.	46.1

Appendix 1

Percentage White Decline Before and After the Major School Desegregation Plan

School District	% Reassigned 0 Year Bl./Wh.	Δ Seg. Index 0 Year	-7 Yrs.	-6 Yrs.	-5 Yrs.	-4 Yrs.	-3 Yrs.	-2 Yrs.	-1 Yrs.	Major Plan Date	0 Year	+1 Yr.	+2 Yrs.	+3 Yrs.	+4 Yrs.	+5 Yrs.	+6 Yrs.	+7 Yrs.	Expected - Actual diff. 0 Year	Signif. of diff. 0 Year	Final Seg. Index
Sacramento, Calif.	11/0	-11.3							- .2	1966	- 2.5	2.2*	-1.1*	0	-3.6	-6.7	-3.2	-6.8			35.2
Racine, Wisc.	9/0	- 7.1	4.0	2.7	.9	.6	-1.2	-2.2	-2.7	1974	- 2.5	-5.2*							1.0	N.S.	19.1
NORTHERN BOARD ORDERED PARTIAL PLANS																					
Saginaw, Mich.	10/0	- 6.6				6.9	- .7	-1.5	-5.6	1972	1.4	-15.6	-6.7	-9.4					11.2	.05	80.0
Bridgeport, Ct.	9/0	- 6.1							-5.5	1969	- 3.7	- 5.8*	.8	-7.1	-7.6	-4.3	-6.1				46.1
Ann Arbor, Mich.	9/0	-21.9							4.9	1965	6.3	7.6	-1.3	8.1	6.0	-2.5	-2.0	-2.5			30.6
Peoria, Ill.	8/0	- 9.9								1968	.3	- 1.0*	-3.6*	-4.1*	-3.2	-4.2	-4.1	-1.5			41.9
Tacoma, Wash.	7/0	-17.9					1.7	1.7	3.7	1968	- .1	- 1.4*	-1.4	-3.6*	-4.6	-2.3	-3.2	-3.7	- 4.3	N.S.	33.1
Lansing, Mich.	5/1	- 6.1				.4*	-6.2*	3.3*	.4	1972	- 8.0	- 3.1*	-3.6	5.1					- 6.6	N.S.	21.3
San Bernardino, Calif.	5/0	-11.1					2.8	-9.4	-1.1	1970	- 3.0	- 5.1	-6.4*	-6.7*	-2.4	-2.8			3.3	N.S.	39.1
New Haven, Ct.	5/0	-11.0								1966	- 3.9	- 4.0	-10.5	-4.7	-8.6	-5.1*	-6.8	-8.5			58.7
Rochester, N.Y.	2/2	-11.1		-3.0	-2.9	4.0	-1.1	-5.2	-6.4*	1971	- 8.2	- 6.9	-5.4	-4.5	- .8				- 2.9	N.S.	51.2
Seattle, Wash.	4/1	- 4.0	-3.0	- .5*	- .5	- .8	-1.9*	-6.2	-7.7	1971	-10.2	-3.4	-8.5	-4.2	-12.0				- 1.9	N.S.	70.8
Buffalo, N.Y.	3/0	-18.7							-1.2	1967	- 4.1	-2.1*	-3.2*	-3.6*	-5.1	-9.4	-7.8	-5.3			61.8
Colorado Springs, Colo.	2/0	-20.2					3.5	5.2*	3.5	1971	4.2	3.9	-2.3	- .4	-2.7				.1	N.S.	38.6
NORTHERN TOKEN PLANS																					
St. Paul, Minn.	3/0	*								1965		*	*	2.7	-4.9	2.2	- .6	-3.8			49.4
Warren, Ohio	3/0	- 4.5							-1.7	1969	- .7	- .8	-1.3	-4.4*	-5.3	-4.9	-3.2				37.2
Flint, Mich.	1/2	.8					-3.8	-2.8*	-4.9	1971	- 4.0	-3.2*	-12.6	-7.0					0	N.S.	66.9
South Bend, Ind.	3/0	- 4.3					-2.3[f]	-2.3	-2.7	1970	- 2.1	-3.0	-4.0	-4.9	-3.8				.9	N.S.	58.4
New York, N.Y.	2/0	*		- .8	-1.9	-2.0	-1.2	- .3	-2.1	1964	- 3.7	-4.3*	-2.1*	-2.0*	-11.8	-3.1	-3.6	-1.6	- 2.2	N.S.	61.5
Rockford, Ill.	2/0	3.5							2.8	1969	17.0	- .8	-3.0	-3.0	-3.2	-3.7	-4.8				56.4
Syracuse, N.Y.	2/0	- 2.5					8.7	-4.5	1.0	1967	- 1.8	-3.7*	-3.2*	-4.9	-4.4	-6.7*	-4.2	-4.3	-4.2	N.S.	38.6
Pittsburgh, Pa.	1/1	- 2.5		-1.9	.2	- .8*	-3.2	-4.4	- .6	1971	- 4.1	-3.3	-3.3	-4.4	-7.3				-1.5	N.S.	58.9
Des Moines, Iowa	1/1	- 7.1							.4*	1969	- 1.7	-1.2	-2.6	-3.3	-3.2	-3.3	-4.0				53.5
Grand Rapids, Mich.	1/0	- 3.6				- 5.1*	1.7	- .1	-3.2	1972	- 4.0	-5.6	-5.8	-2.8					-3.3	N.S.	56.2
Toledo, Ohio	1/0	- 2.7							-2.3	1969	1.4	-1.8*	.2*	-1.9	-4.9	-3.7					71.0

Appendix 1

Percentage White Decline Before and After the Major School Desegregation Plan

School District	% Reassigned 0 Year Bl./Wh.	Δ Seg. Index 0 Year	-7 Yrs.	-6 Yrs.	-5 Yrs.	-4 Yrs.	-3 Yrs.	-2 Yrs.	-1 Yrs.	Major Plan Date	0 Year	+1 Yr.	+2 Yrs.	+3 Yrs.	+4 Yrs.	+5 Yrs.	+6 Yrs.	+7 Yrs.	Expected - Actual Diff. 0 Year	Signif. of Diff. 0 Year	Final Seg. Index
Los Angeles, Calif.	1/0	-2.7				.9	-1.2[a]	-2.6	-5.2[a]	1971	- 4.5	-5.2	-7.4	-7.6	-4.0				-2.5	N.S.	81.0
Gary, Ind.	1/0	*								1967		-4.4	-5.8	-8.7	-11.5	-7.5*	-12.8	-14.2			85.2
E. St. Louis, Ill.	.3/0	*								1967		-13.2	-12.1*	-14.4	-18.8*	-26.8	-29.7	-26.2			75.7
Kansas City, Mo.	.3/0	1.3			-2.9	-3.3	-5.6	-2.7	-5.6	1970	- 5.9	-6.5	-9.1	-15.7	-15.6	-11.3			-1.6	N.S.	82.3
San Diego, Calif.	.2/0	*							1.6	1967	1.7	2.5	- .2	- .9	-1.0	-4.6	-4.6	-1.9			59.7
Chicago, Ill.	.2/0	-2.7					4.2	5.9	-9.5	1968	- 8.3	-4.4*	-4.9*	-7.2	-8.1	-7.3	-7.6	-3.2	5.1	N.S.	91.4
Philadelphia, Pa.	.1/0	.1				-8.3	-3.5	-3.7	-5.1	1972	3.0	-7.9	-3.4	-2.8					5.7	N.S.	76.6
Hartford, Ct.	.1/0	3.0					-5.3	-5.8	-3.9	1968	- 4.1	-9.1	-9.9	-6.1	-9.3	-8.3	-7.9	-7.8	- .5	N.S.	73.1
SOUTHERN PARTIAL PLAN >60% NONWHITE																					
New Orleans, La.[a]	1/.2	-5.8	-1.7	- 2.7	- 2.2	- 5.7	-3.5	-6.1	-9.8	1972	-13.4	-14.9	-13.7	3.8					-4.2	.05	76.0
NORTHERN CONTROL GROUP 60% NONWHITE																					
Washington, D.C.		2.9		-13.1	-11.6	-15.4	-27.9	-9.7	-13.1	d	-16.1	-9.6	-12.1	-1.6	5.7				- .3	N.S.	85.1
E. Orange, N.J.		-5.1					-16.7	-16.1	-16.2	d	-26.5	-27.4	-34.7	-35.3	-46.9				-10.7	.05	36.0
Newark, N.J.		1.9					-15.2	-14.3	-4.8	d	-12.2	-1.9	-10.5	-3.9	-13.5				-13.2	N.S.	78.2
Wilmington, Del.		1.6		-5.2	-3.9	-8.3	-12.5	-26.9	-17.6	d	- 5.9	-11.1	-15.8	-16.3	-21.3				21.7	.05	43.4
Camden, N.J.		-1.7					-13.7	-9.4	-7.0	d	- 9.9	-5.1	-11.9	-10.0	-16.1				- 6.6	N.S.	54.0
Trenton, N.J.		1.2					-15.6	-7.9	-5.8	d	- 6.9	-3.4	-6.1	-6.9	-2.9				-6.8	N.S.	57.4
Paterson, N.J.		3.3					-6.7	-6.1	-9.8	d	- 4.9	-3.7	-12.9	-7.5					5.3	N.S.	50.0
St. Louis, Mo.		2.0					-1.8	-4.7	-5.0	d	- 9.2	-5.1	-8.7	-7.3	-7.9				-2.3	N.S.	90.6
NORTHERN CONTROL GROUP 40 - 60% NONWHITE																					
Cleveland, Ohio		2.2					2.0	-6.1	- .5	d	- 3.0	-3.2	-5.9	-5.1	-3.7				7.3	N.S.	91.1
Passaic, N.J.		-4.0					-12.8	-6.3	-7.9	d	- 7.6	-7.8	-12.3	-7.7					-3.6	N.S.	36.5
Youngstown, Ohio		3.5					-3.6	-7.3	-4.5	d	1.0	-7.1	-1.3	-8.8	-12.1				5.0	N.S.	72.6
Cincinnati, Ohio		3.1		-3.5	- .7	-1.9	-4.5	-3.2	-3.3	d	- 4.8	-7.0	-9.1	-6.4	-3.3	-6.9			-1.1	N.S.	69.0
Albuquerque, N.M.		- .9					.8[f]	.8	1.6	d	1.1	.8	-3.1	-3.2	0				- .9	N.S.	46.8

Appendix 1

Percentage White Decline Before and After the Major School Desegregation Plan

School District	% Reassigned Bl./Wh.	Δ Seg. Index 0 Year	-7 Yrs.	-6 Yrs.	-5 Yrs.	-4 Yrs.	-3 Yrs.	-2 Yrs.	-1 Yrs.	Major Plan Date	0 Year	+1 Yr.	+2 Yrs.	+3 Yrs.	+4 Yrs.	+5 Yrs.	+6 Yrs.	+7 Yrs.	Expected - Actual Diff. 0 Year	Signif. of Diff. 0 Year	Final Seg. Index
NORTHERN CONTROL GROUP <40% NONWHITE																					
Jersey City, N.J.	1.1						-6.9	-3.5	-5.6	d	- .5	-6.7	-10.7	-8.7	-11.6				3.5	N.S.	63.9
Albany, N.Y.	- .1						-7.7	-8.8	-4.4	d	- 5.4	-5.8	1.5						-1.7	N.S.	48.4
Phoenix, Ariz.	-2.1						-1.7	- .7	- .3	d	- 1.1	-4.9	- 2.3	-4.3					-1.7	N.S.	67.0
Columbus, Ohio	-2.4			2.8	-2.8	3.9	3.8	-1.3	-1.3	d	- .7	-5.2	- 5.5	-4.8	- 3.9				.6	N.S.	62.7
Akron, Ohio	-2.9			-2.2	-2.3	- .9	- .7	-3.9	-1.8	d	- 2.3	-3.7	- 6.2	-5.0	- 3.2				1.3	N.S.	65.0
Kansas City, Kansas	-3.1						-5.3	-3.3	-2.3	d	- 3.6	-6.3	- 7.3	-6.9	- 4.6	-5.1			-2.9	N.S.	59.6
Lima, Ohio	-5.5						-1.4	-3.9	-3.5	d	- 4.4	-3.9	- 3.9	-4.2	- 3.6				.5	N.S.	38.8
Santa Monica, Calif.	-3.6						1.2	-1.6	-1.5	d	- 1.0	-2.1	1.4	0	- 1.2				2.3	N.S.	35.0
Omaha, Neb.	-2.4						0	- .8	1.6	d	- .1	-1.9	- 5.0	-3.4	- 3.1				-1.9	N.S.	64.7
Cambridge, Mass.	-1.3			-3.4	-2.1	-2.4	-1.9	- .9	-3.5	d	- 3.3	-2.9	- 2.3	-3.9	- 3.4				-1.1	N.S.	37.7
Yonkers, N.Y.	1.0						- .2	-2.3	- .6	d	- 4.1	-4.2	- 4.8	-1.3	- 7.7				-3.6	N.S.	65.2
Utica, N.Y.	-5.3						-3.5	-1.4	- .8	d	- 4.4	-1.6	- 4.4	-3.6	- 2.6				4.7	N.S.	26.5
Springfield, Ill.	- .3						1.3	.2	- .2	d	.7	-4.1	- 5.2	-4.8					3.8	.05	54.6
Hamilton, Ohio	-1.5						-1.2	-1.3	-1.7	d	- 1.0	-4.3	- 5.6	-4.7					.9	N.S.	68.8
Portland, Oregon	.7			-1.7	0	-3.2	- .1	-1.7	-2.7	d	- 5.6	-6.7	- 4.5	-5.0					-3.3	N.S.	51.2
Charleston, W. Va.[a]	- .5						-2.4	-4.4	-1.6	d	- .7	- .6	- 4.3	-5.0	- 4.6				1.3	N.S.	47.9

[*] Additional, smaller, action taken.

[a] These school districts are countywide: Las Vegas (Clark County); Tampa (Hillsborough Co.); Louisville (Jefferson Co.); Charlotte (Mecklenburg Co.); Nashville (Davidson Co.); Lexington (Fayette Co.); Montgomery (Montgomery Co.); Shreveport (Caddo Parish); Miami (Dade Co.); Baton Rouge (E. Baton Rouge Parish); Mobile (Mobile Co.); St. Petersburg (Pinellas Co.); Jacksonville (Duval Co.); New Orleans (Orleans Parish); Charleston (Kanawha Co.).

[b] Detroit did not actually desegregate until January 1974, but the effect can be seen in September 1973--the semester before.

[c] Voluntary plan consisting of majority to minority transfers; data on reassignments not available.

[d] 1971 is used as an arbitrary dividing point as it is the year most school districts desegregated.

[e] Data not available

[f] Data for -3 years is missing; -2 years data used.

Appendix 2

Additional Policy Issues

Additional Policy Issues: Implementation Year Loss

Grade Level Loss Because of the problems of sampling fluctuations or unrealiable data, several policy issues could not be tested in the multiple regression analysis. One of these is the issue of whether the loss associated with desegregation is greater at the elementary school or the secondary school level. The policy implications of this issue are enormous. Knowing whether white loss is greater at the elementary or secondary level can give administrators a clue as to where to concentrate resources in order to stem white flight. Answering the question is difficult, however. OCR racial composition data only indicates the grade structure of a school, not the number of individuals in a specific grade. Therefore, differential changes in white loss between grade levels could be the result of grade reorganization among schools. Indeed, the school districts most likely to undergo grade reorganization are precisely those school districts that desegregated.*

Conclusions regarding grade level effects based on aggregate data of this type, cannot be accepted with any confidence. Analysis of the grade level structure of the 113 school districts in this sample indicates a good deal of variation from predesegregation to postdesegregation in the number of schools with a 9th grade or above. The loss of even one school to another category can make quite a difference in white enrollment since schools in my sample range from about 300 students to over 2,000. Moreover, schools can remain

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*Coleman decided to ignore this problem and selected all schools having a 6th grade as elementary and all schools having a 10th grade as secondary. His conclusion was that white loss as a result of school desegregation was greater at the elementary school level than at the high school level. Subsequent to this he decided this was incorrect and changed the procedure so that any school that included a grade 9, 10, 11 or 12 would be considered secondary and all others elementary. Some preliminary analysis showed almost equal losses from high school and elementary school. See Coleman, et. al. "Trends in School Segregation, 1968-73," pp. 77-78, and the insert to this paper, pp. 3-5. See Coleman (1975: 3-5).

in the same category, but drop or add a grade with considerable reduction or expansion in enrollment. In short, there is simply no way of telling conclusively what is really student loss at each grade level and what is the result of reorganization without a pupil census by grade because no school district is consistent in having the same schools with the same grade structures before and after school desegregation.

White Reassignments to "Other Minority" Schools In the aggregate level multiple regression analyses, the proportion non-black minority in the school district had no effect on white enrollment change, whereas proportion black was consistently the strongest predictor of white enrollment change. Therefore, we would expect that white reassignments to other minority schools would not have the same negative impact as white reassignments to black schools. Although the data calculations for the 113 school districts did not include analyzing this effect, a case study of Denver's desegregation plan reveals some patterns.

The Denver plan developed by Dr. John Finger, mandated, with a few exceptions that all schools be between 40 and 70 percent minority (combined Hispanic, black, and other minority). Using this guideline, it was possible to determine eight black segregated schools (five elementary, two junior high schools, and one high school), and 29 Hispanic segregated schools in 1973, the year before their major plan. The most striking difference between the Spanish segregated schools and the black segregated schools is the average proportion white in each. The Spanish segregated schools had an average 16 percent white, the black schools only averaged 4.7 percent white. Examining only elementary schools, the Spanish segregated elementary schools had an average 15 percent white, while the black elementary schools had an average two percent white. This conforms with what we know about the greater residential integration of whites with Hispanics compared to whites with blacks.

In order to determine the difference between those reassigned and those who showed up, the actual number of whites who enrolled was substracted from the number who would have had to be reassigned there in order to bring the school up to at least 30 percent white--the bottom line in the Finger plan. This was done for both Hispanic segregated schools and black segregated schools.

The data show two striking phenomena. First, there was very little white loss, if any, from black or Spanish segregated junior and senior high schools. All were brought close to or over 50 percent white. Virtually all of the schools with discrepancies between reassignments and enrollment, can be found at the elementary level.

Second, there is extraordinary difference between the loss from segregated Spanish surname and segregated black schools. Using thirty percent as the bottom line for both Hispanic and black schools, 90.5 percent of white elementary school students assigned to black schools failed to enroll. On the other hand, only 30 percent of white elementary school students reassigned to segregated Spanish did not enroll.

This analysis suggests that white flight is primarily a problem at the elementary school level--ironically the very students who would best adjust to the new desegregated situation. Secondly, the Denver experience suggests that while there is some white flight from Spanish segregated elementary schools, it is minor compared to that from black schools.

Court Ordered v. Board Ordered Several researchers have made statements implying there is a greater negative impact when school desegregation is court ordered than when it is ordered by a local school board. First, it should be noted that there is a great difference in the degree of desegregation resulting from these different types of desegregation orders. As a quick examination of Appendix 1 will show, most extensive desegregation is court ordered probably

because school boards are more sensitive to white constituency pressure to implement minimal or voluntary plans. In addition, HEW is limited by congressional controls such as the Esch amendment which forbids busing past the next nearest school. Indeed, there are only three extensive board ordered plans and of these only one reassigned a significant proportion of whites to black schools. It is this extreme skewedness of the dummy variable, court ordered, which made it impossible to obtain any reliable estimates of its effect. If we simply compare the most extensive board ordered plan (Berkeley) with the most extensive court ordered plan (Pasadena), we can see little difference between them in terms of the negative impact of school desegregation on white enrollment. In fact, Berkeley actually had a greater proportional loss than Pasadena. This suggests that the characteristics of the plan and the school district are much more significant than whether or not the plan is court ordered or board ordered. Indeed, if we have learned anything from individual surveys, it is that support for school desegregation (which we would expect in upper middle class communities with board ordered plans) is unrelated to white flight. (See Giles, Galin, and Cataldo, 1976). In fact, a survey by McConahay and Hawley (1977) indicates that those who most supported the plan, were most likely to leave because of it..

Appendix 3

Variable Means

	Years Before and After Desegregation							
	-2	-1	0	1	2	3	4	-1 to 4
% White Enrollment Change	-.033	-.032	-.056	-.048	-.052	-.046	-.053	-.192
% Black	a	.298	.317	.326	.331	.331	a	.312
Unemployment Rate	a	a	.051	.051	.049	.053	a	.049
Crime Rate[b]	◄----------		.047	----------				►
SD/SMSA Seg. Ratio[c]	a	a	.750	.757	----------			►
L_{10} % Whites Reassigned[d]	-2.91	-2.92	-2.40	-2.80	-2.89	-2.40	e	-2.38
L_{10} % Blacks Reassigned[d]	-2.49	-2.61	-1.64	-2.57	-2.67	-2.89	-2.86	-1.64
Δ Segregation Index[c]	a	a	-.133	a	a	a	a	a

[a]Data not used in equations.

[b]From 1970 Census.

[c]Index of Dissimilarity.

[d]Variable calculated by adding .001 to all cases to eliminate zeros.

[e]No cases.

Appendix 4

Calculating the Least Squares Equation and Mood Test of Significance for the Interrupted Time Series Analysis

Least Squares Equation

$$\hat{y}_o = \hat{\alpha} + \hat{B} t_o$$

the estimate of the first pre change value, t_o is the first post change time point

$$\hat{B} = \frac{\sum_{i=1}^{m} t_i y_i - \left[\left(\sum_{i=1}^{m} t_i\right)\left(\sum_{i=1}^{m} y_i\right)/m\right]}{\sum_{i=1}^{m} t_i^2 - \left(\sum_{i=1}^{m} t_i\right)^2/m}$$

where m = the number of pre change observations
t = the point in time
y = dependent variable

$$\hat{\alpha} = \bar{Y} - \hat{B}\bar{t}$$

where $\bar{y} = \sum_{i=1}^{m} y_i/m$

$$\bar{t} = \sum_{i=1}^{m} t_i/m$$

Mood Test of Significance

$$t = \frac{y_o - \hat{y}_o}{\sqrt{\left[\frac{m+1}{m} + \frac{(t_o - \bar{t})^2}{\sum_{i=1}^{m}(t_i - \bar{t})^2}\right]\left[\sum_{i=1}^{m}\frac{(y_i - \hat{\alpha} - \hat{B}t_i)^2}{m-2}\right]}}$$

where y_o is the actual post change observation

$\hat{y}_o$ is the predicted first post change observation from the least squares equation

Appendix 5

Unemployment Rates for 150 Major Labor Areas, 1968-1974*

* Data earlier than 1968 can be obtained by writing the author. The data used for 1971 is the percent of labor force data rather than the percent of work force.
Source: U.S. Dept. of Labor, Manpower Administration

STATE AND AREA	UNEMPLOYMENT Rate (Percent of Labor Force)			
	1974	1973	1972	1971
Indiana				
Evansville	4.3	3.5	4.4	4.6
Fort Wayne	3.9	3.2	3.2	4.8
Gary-Hamilton-East Chicago	4.7	4.8	5.1	6.0
Indianapolis	4.8	4.2	4.3	5.9
South Bend	4.6	3.8	3.7	5.8
Terre Haute	4.4	5.1	4.9	5.1
Iowa				
Cedar Rapids	2.3	2.5	4.0	4.8
Des Moines	3.1	2.8	3.4	3.5
Kansas				
Wichita	3.7	3.6	5.1	9.1
Kentucky				
Louisville	4.3	3.5	4.4	5.4
Louisiana				
Baton Rouge	6.1	6.9	7.2	7.5
New Orleans	7.7	6.9	7.5	6.9
Shreveport	6.9	5.6	6.9	6.9
Maine				
Portland	5.4	4.3	5.2	5.2
Maryland				
Baltimore	5.1	4.6	4.9	6.1
Massachusetts				
Boston	7.2	6.8	6.5	5.7
Brockton	6.9	6.2	5.1	5.8
Fall River	7.0	5.8	5.0	5.5
Lawrence-Haverhill	6.9	6.6	6.4	8.7
Lowell	7.9	6.6	5.8	7.7
New Bedford	8.0	6.8	INA	INA
Springfield-Chicopee-Holyoke	6.6	6.3	6.2	7.6
Worcester	6.1	5.7	6.0	7.3
Michigan				
Battle Creek	7.0	5.0	5.9	6.2
Detroit	9.0	6.3	7.6	8.4
Flint	11.6	5.4	6.6	6.7
Grand Rapids	6.4	4.7	5.6	6.4
Kalamazoo-Portage	6.8	5.0	5.9	6.7
Lansing-East Lansing	7.7	4.3	5.5	5.6
Muskegon-Muskegon Hghts.	7.8	6.6	8.0	8.3
Saginaw	7.0	4.3	4.8	5.2
Minnesota				
Duluth-Superior	8.0	6.4	7.6	6.3
Minneapolis-St. Paul	4.6	4.4	4.9	5.1
Mississippi				
Jackson	3.2	2.9	3.1	3.6
Missouri				
Kansas City	5.2	4.2	4.4	5.7
St. Louis	5.8	5.3	6.0	6.6
Nebraska				
Omaha	5.2	4.2	4.0	4.0
New Hampshire				
Manchester	4.1	2.9	3.5	4.1

STATE AND AREA	UNEMPLOYMENT Rate (Percent of Labor Force)			
	1974	1973	1972	1971
New Jersey				
Atlantic City	7.9	7.2	6.8	6.2
Jersey City	7.9	7.6	7.6	7.6
Newark	6.3	5.0	5.8	5.3
New Brunswick-Perth Amboy-Sayreville	5.6	5.3	5.5	5.4
Paterson-Clifton-Passaic	7.3	7.4	6.4	6.3
Trenton	5.3	4.5	4.2	4.4
New Mexico				
Albuquerque	6.2	5.2	4.8	5.1
New York				
Albany-Schenectady-Troy	5.0	4.3	5.6	5.2
Binghamton	4.9	4.2	5.8	7.2
Buffalo	8.6	7.2	8.4	8.2
New York City plus Putnam, Rockland, and Westchester Counties	7.0	5.9	6.4	6.2
Nassau-Suffolk	5.2	4.2	6.0	6.2
Rochester	4.0	3.5	5.4	5.9
Syracuse	5.2	4.7	6.2	6.4
Utica-Rome	6.6	6.4	10.4	8.2
North Carolina				
Asheville	4.0	2.6	3.4	4.9
Charlotte-Gastonia	3.2	2.5	2.7	3.5
Greensboro-Winston-Salem-High Point	3.7	3.2	3.2	4.7
Raleigh-Durham	2.8	2.5	3.0	3.7
Ohio				
Akron	4.3	4.2	5.3	5.9
Canton	4.5	4.7	6.3	7.6
Cincinnati	5.3	5.1	5.7	6.2
Cleveland	4.3	4.2	5.6	7.2
Columbus	3.8	3.4	4.1	4.5
Dayton	4.6	4.0	5.0	6.7
Hamilton-Middletown	6.3	5.3	7.5	8.4
Lorain-Elyria	5.0	4.5	5.8	7.3
Steubenville-Weirton	3.5	3.6	4.0	4.3
Toledo	5.7	4.0	4.5	5.1
Youngstown-Warren	5.4	4.5	6.8	7.9
Oklahoma				
Oklahoma City	4.5	3.0	3.7	3.1
Tulsa	3.9	2.9	3.8	4.0
Oregon				
Portland	6.2	5.4	6.4	7.1
Pennsylvania				
Allentown-Bethlehem-Easton	3.8	2.9	4.0	4.7
Altoona	5.5	5.2	6.1	5.9
Erie	4.1	4.2	5.0	5.2
Harrisburg	2.8	2.4	2.9	3.5
Johnstown	5.2	5.6	6.4	6.7
Lancaster	3.1	2.4	3.1	3.1
Northeast Pennsylvania	6.2	4.9	7.0	6.8

STATE AND AREA	UNEMPLOYMENT Rate (Percent of Labor Force)			
	1974	1973	1972	1971
Philadelphia	5.8	5.6	5.5	5.3
Pittsburgh	5.7	5.7	6.5	6.4
Reading	2.9	2.4	3.2	3.5
York	3.4	3.0	3.3	3.8
Puerto Rico				
Mayaguez	14.0	13.2	INA	INA
Ponce	18.3	19.4	INA	INA
San Juan	10.4	10.0	10.4	8.1
Rhode Island				
Providence-Warwick-Pawtucket	7.1	6.1	6.5	7.9
South Carolina				
Charleston	6.5	5.0	5.0	6.3
Greenville-Spartanburg	4.1	2.4	2.9	4.0
Tennessee				
Chattanooga	4.1	2.8	3.3	3.9
Knoxville	4.1	2.8	3.4	3.7
Memphis	4.6	3.2	3.5	4.4
Nashville	4.0	2.5	3.3	3.8
Texas				
Austin	3.1	2.5	2.6	2.8
Beaumont-Port Arthur-Orange	5.6	6.8	7.4	7.0
Corpus Christi	6.1	5.3	5.9	4.6
Dallas-Ft. Worth	3.5	2.7	4.0	4.4
El Paso	6.8	5.7	5.8	5.5
Houston	4.0	4.4	5.0	4.9
San Antonio	5.7	4.5	4.7	5.5
Utah				
Salt Lake City-Ogden	5.8	5.7	6.1	6.1
Virginia				
Newport News-Hampton	4.7	4.1	4.1	4.1
Norfolk-Virginia Beach-Portsmouth	5.1	4.4	4.7	4.4
Richmond	3.1	2.6	2.9	2.8
Roanoke	3.7	3.0	3.0	3.3
Washington				
Seattle	6.8	7.7	10.8	12.4
Spokane	6.2	6.9	7.1	6.8
Tacoma	7.4	8.3	9.2	9.0
West Virginia				
Charleston	4.4	4.4	5.0	4.9
Huntington-Ashland	6.6	6.6	8.7	7.9
Wheeling	5.2	4.7	5.5	5.5
Wisconsin				
Kenosha	3.6	3.5	3.8	4.5
Madison	3.5	3.6	3.8	3.3
Milwaukee	4.3	3.8	4.5	5.0
Racine	3.6	3.9	4.8	5.9

Work Force, Unemployment, and Unemployment Rates in 150 Major Labor Areas

Annual Averages, 1968-1971

STATE AND AREA	UNEMPLOYMENT Rate (Percent of work force) 1971	1970	1969	1968
Alabama				
Birmingham	5.0	4.1	3.5	4.3
Mobile	5.6	5.1	4.5	4.8
Arizona				
Phoenix	4.5	4.2	2.9	3.0
Arkansas				
Little Rock-No. Little Rock	3.2	3.1	2.3	2.5
California				
Anaheim-Santa Ana-Garden Grove	7.2	6.0	4.0	3.8
Fresno	6.9	6.5	5.9	6.5
Los Angeles-Long Beach	7.1	5.9	4.1	4.2
Sacramento	5.8	5.8	5.0	5.1
San Bern.-Riv.-Ontario	6.9	5.9	4.8	5.3
San Diego	6.2	5.5	3.7	3.9
San Francisco-Oakland	5.9	5.1	3.9	4.0
San Jose	6.3	5.7	4.1	4.2
Stockton	8.4	8.3	6.8	6.7
Colorado				
Denver	3.0	3.1	2.9	3.0
Connecticut				
Bridgeport	10.5	6.7	4.2	4.2
Hartford	6.8	4.1	3.2	2.9
New Britain	12.3	7.3	5.0	4.3
New Haven	7.3	4.7	3.4	3.4
Stamford	6.1	3.9	2.9	2.9
Waterbury	10.9	8.3	5.2	5.3
Delaware				
Wilmington	4.7	3.9	3.0	3.3
District of Columbia				
Washington	2.7	2.6	2.3	2.2
Florida				
Jacksonville	2.3	2.2	2.1	2.3
Miami	6.0	4.5	3.0	2.8
Tampa-St. Petersburg	3.1	2.6	2.0	2.3
Georgia				
Atlanta	3.6	3.2	2.3	2.6
Augusta	5.2	4.7	3.3	3.3
Columbus	5.2	4.7	3.6	3.8
Macon	3.5	3.7	2.8	2.9
Savannah	4.4	4.1	3.2	3.4
Hawaii				
Honolulu	5.0	3.5	2.6	2.8
Illinois				
Chicago	4.3	3.6	2.6	2.7
Davenport-Rock Island-Moline	6.0	4.7	4.1	3.7
Peoria	4.1	3.6	3.3	3.2
Rockford	6.1	4.9	3.2	2.9
Indiana				
Evansville	4.6	4.7	3.4	3.4
Fort Wayne	4.6	3.8	2.0	2.5
Gary-Ham.-East Chicago	6.4	4.0	2.8	3.3
Indianapolis	4.9	4.0	2.4	2.6
South Bend	6.6	5.8	3.5	3.2
Terre Haute	5.4	4.6	3.2	3.7
Iowa				
Cedar Rapids	4.6	3.5	1.9	1.8
Des Moines	3.4	2.7	2.3	2.0
Kansas				
Wichita	9.3	8.4	4.0	3.2
Kentucky				
Louisville	5.4	4.0	2.8	2.6
Louisiana				
Baton Rouge	5.7	6.7	5.6	4.4
New Orleans	6.4	5.8	4.6	4.3
Shreveport	5.5	5.1	3.4	3.2
Maine				
Portland	4.6	3.5	2.9	2.6
Maryland				
Baltimore	5.2	4.0	2.8	2.9
Massachusetts				
Boston	5.8	4.3	3.2	3.2
Brockton	8.6	6.5	4.1	4.0
Fall River	7.6	6.9	5.9	5.4
Lawrence-Haverhill	9.2	6.6	5.1	4.7
Lowell	12.1	8.4	5.2	5.4
New Bedford	9.1	8.4	5.9	5.9
Springfield-Chicopee-Holyoke	8.5	6.3	4.6	4.6
Worcester	7.2	4.9	3.6	3.8
Michigan				
Battle Creek	7.6	6.2	3.8	3.9
Detroit	8.1	6.6	3.7	3.9
Flint	6.3	8.1	3.6	3.4
Grand Rapids	8.2	6.5	4.4	3.8
Kalamazoo	6.9	5.3	3.2	3.5
Lansing-East Lansing	5.9	5.8	2.8	3.1
Muskegon-Muskegon Hghts.	10.6	9.6	5.8	6.7
Saginaw	6.7	5.8	3.5	3.6
Minnesota				
Duluth-Superior	6.3	5.1	4.7	4.9
Minneapolis-St. Paul	4.5	3.4	1.9	2.0
Mississippi				
Jackson	3.6	3.7	3.1	3.3
Missouri				
Kansas City	6.1	5.1	4.0	3.8
St. Louis	6.2	5.4	3.5	3.4
Nebraska				
Omaha	4.0	3.3	2.6	2.8
New Hampshire				
Manchester	4.3	3.3	2.7	2.2
New Jersey				
Atlantic City	7.5	6.9	5.9	5.6
Jersey City	8.9	6.6	5.4	5.3
Newark	6.2	4.9	3.9	4.1
New Brunswick-Perth Amboy	7.3	5.6	4.5	4.6
Paterson-Clifton-Passaic	6.7	5.2	4.1	4.1
Trenton	4.9	4.0	3.2	3.7
New Mexico				
Albuquerque	5.2	5.4	4.2	4.3
New York				
Albany-Schenectady-Troy	4.3	3.8	2.9	3.0
Binghamton	6.1	4.6	3.5	3.1
Buffalo	7.6	5.4	3.7	3.8
New York	5.3	4.0	3.2	3.3
Rochester	4.8	3.8	2.4	2.2
Syracuse	5.5	4.9	3.2	3.3
Utica-Rome	7.7	5.8	3.9	4.2
North Carolina				
Asheville	3.6	3.4	2.4	3.3
Charlotte	2.7	2.5	2.0	3.1
Durham	3.5	3.5	3.3	3.8
Greensboro-Winston-Salem-High Point	3.3	2.9	2.2	2.2
Ohio				
Akron	4.8	3.9	2.5	2.5
Canton	5.8	4.3	2.7	3.0
Cincinnati	5.2	3.8	2.8	3.0
Cleveland	4.8	3.8	2.3	2.5
Columbus	3.5	3.2	2.3	2.2
Dayton	5.2	3.5	2.3	2.4
Hamilton-Middletown	7.5	4.9	2.5	3.7
Lorain-Elyria	6.4	4.9	3.1	3.3
Steubenville-Weirton	4.1	3.6	3.0	3.6
Toledo	5.1	4.6	2.9	3.0
Youngstown-Warren	6.2	4.8	2.8	3.7
Oklahoma				
Oklahoma City	4.2	3.4	2.9	3.1
Tulsa	5.1	4.4	3.3	3.4
Oregon				
Portland	6.1	5.6	4.5	3.6

STATE AND AREA	UNEMPLOYMENT Rate (Percent of work force)			
	1971	1970	1969	1968
Pennsylvania				
Allentown-Bethlehem-Easton	4.3	2.4	1.8	1.9
Altoona	5.7	4.3	3.3	4.3
Erie	4.8	3.8	2.9	3.0
Harrisburg	3.2	2.5	2.0	2.4
Johnstown	6.8	5.8	4.4	5.4
Lancaster	3.5	2.3	2.0	2.1
Philadelphia	5.7	4.2	2.9	3.1
Pittsburgh	5.3	3.6	2.5	2.8
Reading	3.3	2.5	1.5	1.6
Scranton	6.4	5.6	4.1	4.1
Wilkes-Barre-Hazleton	6.3	5.2	3.9	4.2
York	3.7	2.8	2.0	2.1
Puerto Rico				
Mayaguez	11.1	11.6	12.8	12.8
Ponce	14.5	12.2	15.2	15.5
San Juan	6.2	5.1	4.7	5.3
Rhode Island				
Providence-Warwick-Pawtucket	7.0	5.3	3.7	3.8
South Carolina				
Charleston	5.8	4.8	3.8	3.9
Greenville	4.1	3.6	2.7	2.9
Tennessee				
Chattanooga	4.2	3.8	2.9	2.9
Knoxville	3.4	3.3	2.7	3.0
Memphis	4.2	3.6	2.9	3.0
Nashville	4.2	3.2	2.6	2.7
Texas				
Austin	2.4	2.3	1.8	1.9
Beaumont-Port Arthur	5.5	4.4	3.8	4.4
Corpus Christi	4.5	4.8	3.8	3.5
Dallas	3.6	2.8	1.5	1.6
El Paso	4.7	4.8	3.7	4.0
Fort Worth	5.4	3.6	2.1	2.1
Houston	3.1	2.6	2.2	1.9
San Antonio	4.8	4.7	3.6	3.4
Utah				
Salt Lake City	5.4	5.0	4.5	4.8
Virginia				
Newport News-Hampton	4.0	4.1	2.9	2.6
Norfolk-Virginia Beach-Portsmouth	3.7	3.4	3.0	2.9
Richmond	2.6	2.1	1.8	1.8
Roanoke	2.9	2.3	2.2	2.2
Washington				
Seattle	13.1	9.5	4.0	2.9
Spokane	8.7	6.6	4.6	4.7
Tacoma	11.2	8.8	5.0	4.2

STATE AND AREA	UNEMPLOYMENT Rate (Percent of work force)			
	1971	1970	1969	1968
West Virginia				
Charleston	5.3	4.8	4.3	4.5
Huntington-Ashland	8.2	6.4	5.1	5.9
Wheeling	5.6	4.9	4.8	6.1
Wisconsin				
Kenosha	6.1	5.5	4.4	4.5
Madison	3.6	3.1	2.1	2.1
Milwaukee	5.0	4.2	2.7	2.7
Racine	6.7	6.1	3.8	4.1

Source: State employment security agencies.

Annual Averages, 1971-1974

STATE AND AREA	UNEMPLOYMENT Rate (Percent of Labor Force)			
	1974	1973	1972	1971
Alabama				
Birmingham	5.1	4.5	4.7	5.4
Mobile	5.5	4.9	5.2	5.9
Arizona				
Phoenix	5.8	3.9	4.0	4.9
Arkansas				
Little Rock-North Little Rock	3.3	2.4	2.9	2.7
California				
Anaheim-Santa Ana-Garden Grove	5.3	5.2	7.6	9.2
Fresno	7.9	8.5	7.4	8.1
Los Angeles-Long Beach	6.8	6.5	7.5	9.3
Riverside-San Bern.-Ontario	8.6	6.8	7.3	9.4
Sacramento	7.7	7.9	6.5	6.6
San Diego	7.8	6.1	6.8	8.7
San Francisco-Oakland	7.6	7.6	8.5	9.0
San Jose	5.9	5.8	7.9	7.3
Stockton	8.5	9.5	8.6	9.2
Colorado				
Denver	3.7	3.6	3.7	4.1

Annual Averages, 1971-1974

	1974	1973	1972	1971
Connecticut				
Bridgeport	7.7	7.9	11.0	10.9
Hartford	5.4	5.6	7.8	7.2
New Britain	6.7	7.3	10.6	11.6
New Haven	6.2	6.3	8.0	7.6
Stamford	5.3	6.0	6.6	5.7
Waterbury	6.3	6.2	9.4	10.1
Delaware				
Wilmington	6.4	4.2	4.8	5.6
District of Columbia				
Washington	4.4	4.2	3.3	2.7
Florida				
Jacksonville	5.6	4.5	3.9	4.1
Miami	6.0	4.1	5.6	5.2
Tampa-St. Petersburg	5.6	3.4	3.4	4.6
Georgia				
Atlanta	4.9	3.7	3.9	3.8
Augusta	4.7	4.5	5.2	5.6
Columbus	5.2	4.7	5.2	5.2
Macon	5.3	4.3	3.8	3.8
Savannah	4.7	3.7	4.1	4.4
Hawaii				
Honolulu	7.2	6.5	7.1	6.3
Illinois				
Chicago	4.7	4.2	5.1	5.8
Davenport-Rock Island-Moline	3.2	3.4	4.6	6.1
Peoria	3.3	2.7	4.3	3.4
Rockford	4.7	3.5	3.7	4.9

[1] Coleman's first "white flight" paper (1975a) analyzed school enrollment only through the Fall of 1972, but by dividing the sample into large and small school districts was able to obtain an effect in the large school districts. This analysis was roundly criticized for a variety of reasons (Reinhold, 1975; Pettigrew and Green, 1976; Jackson, 1975; Wisenbaker, 1975; Robin and Bosco, 1976; Weinberg, 1975). Jackson's paper reanalyzing Coleman's whole sample, rather than large and small separately, found no desegregation effect when additional control variables were included in the equation.

[2] This sample represents 84 percent of all cities over 250,000; 46 percent of all cities from 100,00 - 249,999; and 8 percent of all cities from 50,000 to 99,999. Broken down by region, this represents 88 percent of all northern cities and 75 percent of all southern cities over 250,000; 55 percent of all northern cities and 27 percent of all southern cities from 100,000 to 248,999; and 9 percent of all northern cities and 4 percent of all southern cities from 50,000 to 100,000. For a discussion of the original 200 city sample see Rossi and Crain (1968).

[3] Although most analysts of school desegregation and white flight use this data, it is by no means unflawed. Schools will sometimes drop out of a listing one year only to reappear two years later, and vice versa. This may be inconsequential if it is caused by the occasional addition of small special schools with minute enrollments or a computer error in the listing of the school name. Despite these problems, it is reasonably reliable in estimating trends.

[4] Because the measures are calculated from the students who actually enrolled in the desegregated school, they underestimate the amount of reassignments, particularly of white students. This is compensated for somewhat by standardizing white reassignments by the desegregation year enrollment rather than the previous year's enrollment. Black reassignments are standardized by the previous year's enrollment. Dates of plans subsequent to Fall 1972 were obtained from Integrated Education, HEW's Office of Civil Rights, and David Armor. This was corroborated when necessary by phone calls to local school districts. If plans were provided indicating the affected schools, the pre and post desegregation enrollment difference was computed in only those schools. When no plans were provided indicating the affected schools, the pre and post desegregation enrollment difference was computed in all schools. Only significant changes which increased integration in the reviving school were counted as desegregation reassignments. This is discussed in more detail in Chapt. 12 of David J. Kirby, T. Robert Harris, Robert L. Crain, and Christine H. Rossell, Political Strategies in Northern School Desegregation (Lexington: D.C. Heath, 1973).

[5] The Index of dissimilarity is a standardized measure of segregation. It reflects the proportion of black students who would have to be reassigned, if no whites were reassigned, in order to have the same percentage of blacks in each school as in the whole school district. Thus, the higher the index, the greater the segregation. The formula for the index is

$$D = 1/2 \sum \left| \frac{Wi}{W} - \frac{Ni}{N} \right|$$

It was created by Karl and Alma Taeuber and is described in Karl and Alma Taeuber, Negroes in Cities (New York; Athenum, 1965) pp. 236-238. The computational formula was used to calculate the index of dissimilarity measures used

Footnotes Cont'd.

in this study because much of it was done by hand. The computational formula involves adding up the number of blacks in all schools with a black population greater than or equal to the percent in the school district, adding up the whites in these schools, dividing each sum by their respective school district populations, subtracting these sums from each other, and multiplying the absolute value by 100. Although this is a good deal faster than the formal equation, it yields slightly different results from time to time, probably depending on the number of ties in a given year.

[6]The following school districts did not send me their 1975 racial composition data (or it was incomplete) and so the index was computed with 1974 data: Flint, Michigan; Hamilton, Ohio; Mobile, Ala; Montgomery, Ala; Muncie, Ind; Passaic, N.J.; Paterson, N.J., Phoenix, Ariz.; Portland, Ore.; Sacramento, Calif.; Seattle, Wash.; South Bend, Ind.; Springfield, Ill.; Stamford, Ct.; Toledo, Ohio; Waco, Texas; and Waterbury, Ct. Albany, New York had no '74 or '75 data and so the index was computed on '73 data. Detroit, Michigan desegregated after Fall, 1975 in the middle of the year so their index was computed with Fall '76 data. Boston's index was also computed with Fall 1976 data.

[7]A least squares regression line is fitted to the pre desegregation series to predict the first year after desegregation. The residual is the difference between the predicted and the actual proportion white enrollment change. It can be thought of as white flight associated with desegregation. If there appears to be some "expectation" of desegregation in T-1 which would affect the T+0 prediction, an unbiased T-1 was predicted from the predesegregation series and used to predict T+0. (However, multiple regression analysis of all cases showed in general, little or no anticipation effect.) The test of significance is a t-test (the Mood test) using the pretest variance only for the standard error. See Sween and Campbell (1965) and Appendix IV for the formula.

[8]In general, variables were eliminated from the equation if the standard error of the b was so much larger than the b that it made interpretation unreliable. However, if a variable had strong theoretical importance, the sign of the coefficient was in the expected direction, its effect on other variables was "rational," and it contributed one percent to the variance explained, it remained in the equation. This is the case with the unemployment rate, the crime rate, and previous white reassignments. The grades desegregated, court ordered, per pupil expenditures and the proportion other minority were eliminated from the equations either because their coefficient was zero or because, as in the case of court ordered, the skewedness of the sample and multicollinearity problems resulted in extremely biased coefficients and irrational effects on other variables.

[9]The interaction effect of black reassignments with the proportion black in a school district was removed from equations 3 and 4 due to severe multicollinearity problems and "irrational" effects on other variables. This means, of course, that the interaction effect in the equation could be masking both effects. This will be partially resolved later in the analysis.

Footnotes Cont'd.

[10] Including an interaction effect between southern city school districts and the amount of white reassignments proved to be unsatisfactory because of extreme multicollinearity between this variable and two other independent variables. However, zero order correlations observed over time suggest that such an interaction effect may exist.

[11] The residual white enrollment change predicted from the pre desegregation time series was analyzed as a dependent variable. There are few differences between this analysis and those presented in Table 3, except that density is a more important variable in predicting residual white enrollment change than it was in predicting total white enrollment change. However, this equation, even with an interaction effect explains only 41 percent of the variance in white enrollment change.

[12] Memphis was excluded from all analyses of T+2 and later because of land annexations which increased its white enrollment in that year.

[13] The criterion for two or three year white reassignment plan is white reassignments greater than .2 percent in T+1 or T+2. The criterion for two or three year black reassignment plan is black reassignments greater than 6 percent in T+1 or T+2.

[14] By T+4 the only school districts left in the sample are those that desegregated by 1971. By T+5 the only ones left are those that desegregated by 1970. Since white reassignments are explicitly analyzed here, this time factor should not bias the sample in any way that I can think of.

[15] The increasingly positive crime rate may be a function of the time lag since 1970 when the variable was computed. Cities with previously high crime rate have already had white outmigration of those able to leave. It may also be a function of multicollinearity.

[16] A contributing factor is the fact that white enrollment change and black enrollment change are correlated, on the average, above .25 beginning with the T-2 year up through the T+3 year. Therefore, large white losses are usually accompanied by large black losses (or less than normal increases). This has led many researchers to suspect that part of the loss of whites in the year of implementation is artifically caused by inflated pre desegregation enrollment. We would suspect such a phenomenon is operating, if there is also a black enrollment decline (or a less than normal increase). Unfortunately, we cannot control for this because there is no way to tell in the absence of a survey what is black "flight" and what is an artifact of pre desegregation inflated enrollments.

Footnotes Cont'd.

[17]Again, because of multicollinearity problems, an interaction effect between % black and black reassignments could not be included in the equation. To determine if such an interaction effect exists, those school districts that did not mandatorily reassign whites were analyzed in a multiple regression equation including only black reassignments. The net effect is similar to that derived from the full equation. In other words, there is no interaction effect between % black and proportion black reassigned, if no whites are reassigned, over the 5 year period.

[18]In order to determine if there is some regression toward less interracial contact over time, school districts which desegregated in 1971 or earlier were analyzed with the control group. The effect is virtually identical to that shown in Table 17.

Section II

The Effect of Community Leadership and the Mass Media on Protest and White Flight

None of the studies on white flight tell us what effect community leaders and the news media can have on white flight associated with desegregation. This paper will explore this. In the order of their appearance, the following issues are analyzed: (1) the effect of leadership statements on white flight; (2) the effect of the news media on white flight; (3) the effect of protest on white flight and finally (4) the effect of leadership on causes of protest.

Community Leadership and White Opposition: The Evidence

White there has been no systematic research on the relationship between community leadership behavior and white flight associated with desegregation,[1] there has been some research on the effect of leadership behavior on white opposition. One of the more important of these studies is described in Political Strategies in Northern School Desegregation by Kirby, et al.[2] They found white support and white opposition to desegregation to be a function of leadership behavior and attitudes. White support was greater and opposition less,[3] when the civic elite supported the civil rights movement, the civic elite was more active in the community, the school board was more liberal, school board elections were more organized, and more harmonious relations existed between the school board and the civil rights movement. In addition, there was more opposition when the mayor was inactive or conservative on the issue of school desegregation, there was more conflict within the school board over whether to desegregate, and the superintendent was less active.[4]

It is possible, however, that the factors that influence white opposition are different from those that influence white flight.[5] Protest, because it is a short term angry, behavioral reaction to events, may be more susceptible to the force of authority. White flight, on the other hand, could be the result of a personal calculation of the costs and benefits of integrated education (mediated by attitudes). If this is the case, public statements for or against desegregation may only marginally affect this calculation of costs and benefits unless leaders can offer something concrete that will change the perceived costs of desegregation.[6] In the case of court ordered desegregation

this does not seem likely. The most influential factor influencing white flight should be the characteristics of the plan because this is the most concrete evidence of the personal costs and benefits of desegregation.[6]

Nevertheless, leadership and the mass media could have an indirect effect on white flight through their effect on protest and the subsequent effect of protest on white flight. These possible relationships will be explored in this paper.

Sample and Methodology

The ten city sample analyzed here was chosen from those school districts in my 113 school district study[7] which had desegregated under court order or an HEW administrative order and were included in the Newsbank news clipping microfiche service. The plan of analysis involved reading all newsclippings in the categories of "education," "government structure," "law and order," "political development" (including elections), "social relations," and "welfare and poverty," for a year before school desegregation. Since the newsclipping service did not begin until 1970, all school districts that desegregated under court order before Fall 1971 were eliminated. Because of time constraints, the sample was reduced from 14 to 10.

The final variables used in the analysis included news emphasis on conflict, level of protest, and leadership statements. Means, totals, and proportions were calculated for six month and three month periods for the school year before desegregation.

The sample of ten court ordered cities is listed in Table 1. This table suggests that school districts typically reassign a larger proportion of their black students than their white students.[8] Because Minneapolis, Dayton, and Atlanta relied on white volunteers to formerly black schools (even though court ordered) the number of whites so reassigned is insignificant.

TABLE 1

DESEGREGATION CHARACTERISTICS AND WHITE LOSS

	Year[a] of C.O. Deseg.	Percent Whites Reassigned To Black Schools	Percent Blacks Reassigned To White Schools	Change In Seg. Index	Fall 1975 Seg. Index[c]	Difference Between Predicted & Actual Loss (White Flight)	Statistical Signif. of Loss
Boston	1974	8	12	-23.4	26.2	- 9.7[d]	.0005
Memphis	1973	9	23	-36.1	50.8	-28.1	.025
Indianapolis	1973	4	11	-14.6	46.9	- 2.8	N.S.
Louisville	1975	9	46	-54.8	27.9	- 6.7	.025
San Francisco	1971	5	37	-31.2	20.9	- 8.9	N.S.
Denver	1974	3	17	- 7.7	41.7	- 7.5	.01
Baltimore	1974[b]	4	2	- 6.2	67.4	- 8.7	.0005
Minneapolis	1973	1	9	- 4.7	44.3	- .1	N.S.
Dayton	1973	0	4	- 6.6	69.1	+ .7	N.S.
Atlanta	1973	0	4	- 6.3	74.2	- 1.5	N.S.

[a] Study only goes through Fall 1975.

[b] Desegregated under HEW order.

[c] The higher the index, the more segregated the school district is.

[d] The figure represents the difference in percentage points. For example, Boston's actual percentage white loss was 9.7 percentage points higher than predicted.

Column four shows the change in the level of segregation (index of dissimilarity).[9] The school district with the smallest reduction in segregation is Minneapolis, a city usually lauded for its peaceful desegregation. It is quite possible that the reason it desegregated peacefully is because it did not desegregate very much, and the final index of segregation shown in column five indicates the outcome of their desegregation plan is a fair amount of segregation.

Finally, column six shows the difference between the amount of white public school enrollment decline (measured as the percentage of the previous year's white enrollment) predicted from the pre desegregation trend and the actual percentage white enrollment loss with desegregation in the year of implementation. This estimate, unlike the total enrollment declines usually cited in news articles, can be thought of as white "flight" from desegregation.[10] It will be the dependent variable used in this analysis. Although all school districts except Dayton had some white flight from desegregation, only four of the ten school districts had a statistically significant loss.

Does Leadership Support for School Desegregation Reduce White Flight?

The first question to be answered by the data is an important one for policy considerations. If white flight can be manipulated by leadership statements than it may be possible to convince leaders that they ought to speak out on behalf of school desegregation and thus eliminate one of its unintended, negative impacts. Numerous studies conducted by the U.S. Commission on Civil Rights have led us to believe that such support is able to reduce or eliminate negative impacts.[11]

The simple correlation between leadership statements and white flight do not reveal a very clear relationship[12] because leadership statements in support of school desegregation are inversely related to the extensiveness of

the plan. There is a greater proportion of statements in support of school desegregation where less students, both black and white, are reassigned. This is also true when these statements are related to a composite variable measuring both the extent of the plan and the school district percentage black.[13] Most leaders do not seem to think independently in these situations, they react. "Within the context of minimal desegregation, school desegregation is good; within the context of extensive desegregation, school desegregation is bad."

If we control for the extent of the school desegregation plan and protest, the relationship between leadership statements and white flight is reduced to insignificance. In sum, this means that a simple relationship between leadership statements in support of school desegregation and positive or successful school desegregation is not evident in the case of white flight, as Munford indicated in his study.[14] My own feeling is this is a function of two things. First, there were not many leadership statements one way or the other in most communities. The average number of "pro" statements for a community for the whole year was only four, the number of neutral statements three, and the number of "con" statements only seven. Thus, it is clear that, as has been indicated elsewhere, most community leaders simply hide from the issue. Since the analysis is on only a small number of statements, it is not surprising they have little impact. A second and less plausible, reason for the unimportance of community leadership statements has to do with the characteristics of court ordered school desegregation. In this situation, community leaders are probably perceived as being powerless to change the most important aspects of the costs and benefits of school desegregation: the characteristics of the plan, especially whether or not white children are to be bused. Therefore, the ability of leaders to inhibit or increase white flight may be substantially reduced where they can offer little promise of any policy changes and are probably perceived as insignificant.

Do the News Media Have Any Effect on White Flight?

The common myth regarding the mass media is that they are liberal and supportive of school desegregation. The Boston Globe, for example, has been roundly criticized for being "pro desegregation" and slanting the news to imply school desegregation is succeeding. Thus, I was surprised on reading the Globe for a whole year before school desegregation to find that not only were they not pro desegregation, but they were quite pessimistic about the outcome of any school desegregation plan. Moreover, of the ten cities included in this study, Boston has the highest score (average and total) on emphasizing conflict or negative outcomes in the first six months of the pre desegregation year (before any substantial protests had taken place). For the most part, the Globe went out of its way to interview anti-busing leaders and to publicize conflict and portents of doom for the upcoming plan.

In general, this agrees with a study conducted by Stuart of media coverage on school desegregation in Nashville.[15] He found newspapers often resorted to cliches like "massive busing," "wholesale changes," "busing turmoil," and "white flight" where more precise wording would have been appropriate. Moreover, anti-busing groups and individuals were afforded the bulk of coverage.

In this study, the average score for news story emphasis on conflict was 3.2 on a scale of one to five. This means the average story emphasized conflict, but not overwhelmingly, or that stories emphasizing conflict or predicting dire outcomes were ocassionally balanced by stories emphasizing positive outcomes or cooperation. As with leadership statements, the emphasis on conflict was highly related to the extent of the plan. School desegregation plans with greater black and white reassignments were given coverage during the pre-desegregation year which emphasized more conflict or predicted more negative outcomes than plans that were minimal in their reassignments, and this is not a function of the protest generated by extensive plans.

The relationship between news coverage and white flight remains even when, as shown in Table 2, an index including protest, percent black and desegregation is controlled for. The policy implications of this finding seem clear to me. The media can change the negative community impacts of school desegregation because they are the conduit through which information regarding school desegregation is channeled to parents. Thus, the perceived costs of school desegregation are created to some extent by the news media. These data suggest that if the media covered school desegregation with a supportive slant, such perceived costs might be significantly reduced.

Does Protest Cause White Flight?

The simple correlation between protest and white flight is quite high. ($r = .71$) However, this could be a function of the high correlation between protest and the extent of the desegregation plan. As Kirby et. al. point out, white protest appears to be a reaction to the decision to implement school desegregation, but it does not prevent it. Indeed, the greater the white opposition, the more school desegregation.[16]

Nevertheless, while white opposition is unable to prevent school desegregation, it may increase white flight. As Table 3 indicates, protest in the first six months, (typically before the plan has been revealed) can increase white flight by symbolically illustrating the perceived costs of school desegregation. In the absence of other information, protest conveys the message that school desegregation brings violence to a community. This message, six months in advance of implementation, gives parents enough lead time to find alternatives to putting their child in an integrated school.

Table 2

Predicting White Flight With News Emphasis on Conflict Controlling for an Index of Desegregation, Protest, and % Black

Independent Variables	r	Beta
Index of Deseg., % Black, and Protest	.83	.68
Average News Emphasis on Conflict	.67	.37

$r^2 = .80$

[a]The prediction equation is WHITE FLIGHT = -14.88 + .089 INDEX + 6.159 NEWS.
(Standard errors are in parentheses.) (.024) (3.065)
The mean for INDEX is 1.23 and for NEWS is 2.50.

Table 3

Predicting White Flight With Desegregation Index and Protest

Independent Variables	r	Beta
Index of % Whites Reassign. X School District % Black	.54	.88
Average Protest First Six Months	.17	.22

$r^2 = .81$

[a]The prediction equation is WHITE FLIGHT = .428 + .140 DESEG. INDEX + .034 PROTEST
(.026) (.025)
(Standard errors are in parentheses.) The mean for DESEG. INDEX is 1.48 and for NEWS is 2.50.

What Influences Protest?

If protest has the ability to increase white flight from desegregation, independent of the characteristics of the plan, then it is obviously important to determine what causes it. We would particularly want to know if there are any causes that might be of policy importance--that is, that can be manipulated by policymakers.

The first variable of importance is the effect of leadership statements on protest. As hypothesized at the beginning of this paper, leadership statements could be potentially important in reducing white flight if they are related to the amount of protest. The simple correlations between leadership and protest are quite high. The proportion of "con" statements regarding school desegregation is positively related to protest during the entire pre-desegregation school year and the last six months of that year at a level that exceeds .90. The proportion of "pro" statements in the last six months is negatively related to the amount of protest.

Unfortunately, although the data can only suggest, not confirm, this relationship, it appears that protest causes negative leadership statements, rather than the other way around. When we examine the relationship between leadership statements and protest, controlling for the amount of school desegregation, the proportion of "con" statements in the last six months of the pre-desegregation school year are positively related to the amount of protest in the first six months (r_s = .55), while the amount of protest in the last six months has absolutely no relationship with leadership statements in the first. These data suggest then, that most leaders do not lead on issues of race, they are led.[17]

These findings run counter to those of Kirby, et al.[18] cited earlier in this paper. Part of the explanation for the differences in our findings

may be that school desegregation has different correlates when it is an abstract principle rather than an actual policy decision. The amount of school desegregation being implemented during the time period of the Kirby, et al. study (1960-68) was so small that it should properly be called token or symbolic school desegregation. The typical response to desegregation demands during that period was a voluntary, one way minority busing program. Thus, the effect of leadership on the protest movement was not mediated by real threats of change that might significantly affect the lives of whites. In addition, the Kirby, et al. study analyzed all aspects of leadership behavior, not simply statements. It may be, as I have argued in another paper,[19] that community leadership is not as important in its verbal support for school desegregation as it is in behind the scenes activities with individuals, groups, and various governing bodies.

Conclusions

It is apparent from the numerous research studies that white flight from school desegregation is a reality. It is also apparent that most journalists and many partisans overemphasize its importance by quoting total enrollment declines rather than the increment due to desegregation. This increment averages out to be a doubling of the normal loss in northern school districts and a tripling of the normal loss in southern school districts in the year of implementation. (Most implementation year losses tend to be less than normal so that the loss is made up in many school districts.) The interrupted time series methodology is one way of estimating that increment in white enrollment decline due solely to school desegregation. The methodology is useful where one has only a few cases and thus is unable to control for all the demographic characteristics that cause the normal white decline. In the interrupted time series, the city's previous experience with white enrollment decline serves as a control for demographic factors.

Using this methodology in conjunction with correlational analysis, this study has attempted to explore the importance community leaders, the news media, and protest have on white flight. The tentative conclusions made here are illustrated in Figure 2. This is a change from the hypothesized relationships stated at the beginning of this paper. Unexpectedly, community leadership turned out to have no significant effect on white flight. However, the news media did have an independent effect on white flight, as did the average severity of protest in the first six months of the pre-desegregation year. These findings have important policy implications because they suggest that the news media can significantly alter the perceived costs and benefits of school desegregation, and thus its unintended negative impacts, by altering their coverage of school desegregation. Undoubtedly, there are those who would argue that this is unethical--that the newspapers have a responsibility to report exactly what happens. Nevertheless, a careful reading of the news stories on school desegregation suggests that Stuart is correct--the media go out of their way to interview anti-busers and to publicize protest, not necessarily because it is a truthful image of what is happening, but because that sells newspapers. For three years the Boston Globe overemphasized the importance of South Boston High School to the point where they would have flunked an elementary math course. If 150 schools have no problems, is it accurate reporting to devote virtually your entire coverage of desegregation to the four or five schools that have severe problems? In doing so, the troubled schools are weighted thirty times that of the untroubled schools.

It should be emphasized at this point that the small sample size made a more extensive analysis impossible. The variables analyzed here are only a few of the half dozen or more variables that influence the amount of white flight associated with school desegregation. While this sample of ten cities can be considered representative of those that have desegregated under court order, this may change in the near future. At best, this should be considered an exploratory project.

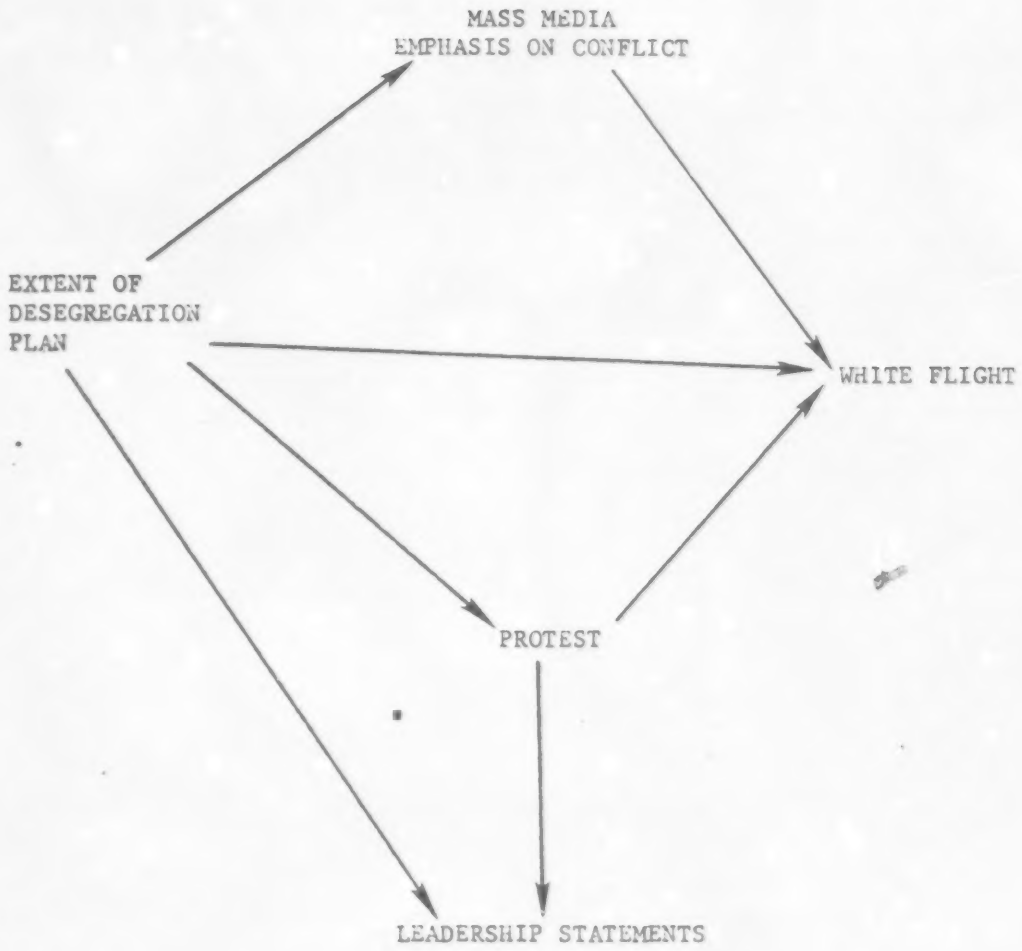

Figure 1.

Model of Relationships Suggested By the Data Analysis

APPENDIX 1

Correlation Matrix of Desegregation and White Flight Variables

	% Whites Reassign.	% Blacks Reassign.	% Whites + % Blacks Reassign.	Change in Seg. Index	Fall 1975 Seg. Index	Difference Between Predicted and Actual Loss	Statistical Signif. of Loss
Year of Court Ordered Deseg.	.11	.15	.15	-.17	.05	.01	.65
% Whites Reassigned		.64	.79	-.60	-.33	-.73	.60
% Blacks Reassigned			.98	-.90	-.84	-.40	.38
% Whites Reassign. + Blacks Reassigned				-.88	-.85	-.46	.47
Change in Segregation Index (Index of dissimilarity)					.63	.50	-.35
Fall 1975 Segregation Index						.21	-.24
Difference Between Predicted and Actual Loss							-.50

Appendix 2

Variable Description

The protest/conflict variable is the sum of the following variables: the race of the actors involved (black = 4, white = 3, other minority = 2, integrated = 1); the type of activity (rally = 1, sit-in = 2, march = 3, boycott = 5, walkout = 6, random violence = 7, riot = 8); the number of individuals involved (0-10 = 1, 11-25 = 2, 26-100 = 3, 100-500 = 4, 500 - 1000 = 5, 1000 - 5000 = 6, 5000 - = 7); the number of days, the number injured, the number killed, the number arrested. The number of separate incidents, the summary score for all incidents, the mean score for all incidents were calculated for three month periods during the school year before the implementation of school desegregation.

Newspaper coverage of schools and desegregation were coded on a scale of one to five according to the degree to which they emphasized optimistic outcomes and cooperation or pessimistic outcomes and conflict.

APPENDIX II

Means of Variables

Variable	Time	X
Average Emphasis of News Stories	pre desegregation school year	3.2
	first 6 months pre deseg. school year	3.1
	last 6 months pre deseg. school year	3.2
Number of News Stories	pre desegregation school year	86
	first 6 months pre deseg. school year	36
	last 6 months pre deseg. school year	50
Total Emphasis of News Stories[a]	pre desegregation school year	282
	first 6 months pre deseg. school year	117
	last 6 months pre deseg. school year	164
Average Severity of Protest/Violence	pre desegregation school year	26.9
	first 6 months pre deseg. school year	10.5
	last 6 months pre deseg. school year	21.1
	last 3 months pre deseg. school year	23.9
Number Protest/Violent Events	pre desegregation school year	5.6
	first 6 months pre deseg. school year	2.2
	last 6 months pre deseg. school year	3.4
	last 3 months pre deseg. school year	2.6
Total Protest/Violence Severity[b]	pre desegregation school year	131.3
	first 6 months pre deseg. school year	31.7
	last 6 months pre deseg. school year	99.6
	last 3 months pre deseg. school year	89.4
% "Pro" Statements	pre desegregation school year	34.4
	first 6 months pre deseg. school year	21.9
	last 6 months pre deseg. school year	36.9
% Neutral Statements	pre desegregation school year	22.0
	first 6 months pre deseg. school year	18.4
	last 6 months pre deseg. school year	18.9
% "Con" Statements	pre desegregation school year	41.2
	first 6 months pre deseg. school year	29.4[c]
	last 6 months pre deseg. school year	42.2

Variable	Time	$\bar{X}$
Number "Pro" Statements	pre desegregation school year	4.0
	first 6 months pre deseg. school year	1.7
	last 6 months pre deseg. school year	2.3
Number Neutral Statements	pre desegregation school year	2.8
	first 6 months pre deseg. school year	.8
	last 6 months pre deseg. school year	2.0
Number "Con" Statements	pre desegregation school year	6.5
	first 6 months pre deseg. school year	3.1
	last 6 months pre deseg. school year	3.4

[a] The sum total of emphasis score of each news story.

[b] The sum total of the severity score of each protest or violent event.

[c] The percentages do not add up to 100 in any time period because of rounding error or because in the first 6 month time period some cities had no statements of any kind on school desegregation (e.g., 0% pro, 0% neutral, 0% con).

Footnotes

1. Munford's study of school desegregation and white flight in Mississippi found that the influence of leadership was small and it diminished over time in both its effect on protest and white flight. However, as far as I can tell, there was no systematic analysis of leadership statements or behavior, and therefore, his conclusions would have to be considered impressionistic. See Lewis Munford, "White Flight From Desegregation in Mississippi," Integrated Education 11 (May-June 1973) 12-26.

2. David J. Kirby, T. Robert Harris, Robert L. Crain, and Christine H. Rossell, Political Strategies in Northern School Desegregation (Lexington, Mass: D.C. Heath, 1973). This study of 91 northern school districts was conducted during a two and a half year period from 1967 to 1969, covering events from 1960 through 1969. The data come from a series of 18 in-depth interviews with 18 local elites ranging from the city editor of the local newspaper to an informed civil rights leader in the community.

3. White support for desegregation is measured by the number of meetings and the number of people attending such meetings in support of the desegregation demand. White opposition to desegregation is measured by the number of meetings and the number of people attending such meetings in opposition to the desegregation demand.

4. Kirby, et al., pp. 128-130.

5. However, Giles and Cataldo found at the individual level the factors that cause white protest are very similar to those that cause white flight. The exception was educational level. Education was negatively related to protest when income was controlled for. However, there was still a positive relationship between education and white flight when income was controlled for. See Michael W. Giles, Douglas S. Gatlin, and Everett F. Cataldo, Determinants of Resegregation Compliance/Rejection Behavior and Policy Alternatives (National Science Foundation Report NSF/RA-760179).

6. Giles, Gatlin, and Cataldo also found that white flight, while only weakly or not at all related to racial prejudice, class prejudice, or attitudes toward school integration, was related to attitudes toward the handling of implementation. I suspect that this latter variable also measures attitudes toward the characteristics of the plan (e.g. whether whites are bused to black neighborhoods, the proportion black in integrated schools, etc.) Ibid. pp. IV-12 - IV - 13.

7. The study is described in Christine H. Rossell, "The Political and Social Impact of School Desegregation Policy: a Preliminary Report," (a paper presented at the annual meeting of the American Political Science Association, San Francisco, California, Sept. 2-5, 1975). The 113 cities consist of all cities with at least one study conducted in them from the 200 city sample chosen by Rossi and Crain and described in Peter H. Rossi and Robert L. Crain, "The NORC Permanent Community Sample," The Public Opinion Quarterly 32 (Summer 1968) pp. 261-272.

8. A complete description of how the variables are computed from OCR racial census data and a survey of each of the school districts is described in Kirby, et. al., Political Strategies in Northern School Desegregation, pp. 176-180; Christine H. Rossell and Robert L. Crain, Evaluating School Desegregation Plans Statistically (Baltimore, Md.: the Johns Hopkins University Center for Metropolitan Planning and Research, 1973); Christine H. Rossell, "School Desegregation and White Flight," Political Science Quarterly 90 (Winter 1975-76) pp. 678-680.

9. The index of dissimilarity is a measure of segregation used by most sociologists. The formula is

$$D = 1/2 \sum \left| \frac{W_i}{W} - \frac{N_i}{N} \right|$$

where W_i is the number of whites in each school, N_i is the number of blacks in each school, W is the number of whites in the whole school system, and N is the number of blacks in the whole school system. This calculation is performed for each school and the sum of all the schools is then divided in half. The figure represents the proportion of black students who would have to be reassigned, if no whites were reassigned, in order for each school to have the same proportion black as in the while school district. Thus, the higher the figure, the greater the segregation. The measure comes from Karl E. Taeuber and Alma F. Taeuber, Negroes in Cities (New York: Athenum, 1965) pp. 236-238.

10. The methodology used here is called an interrupted time series. This involves fitting a straight line (least squares) to the pre desegregation trend of yearly proportion white enrollment change and then extending that line out past the desegregation year. The white loss attributable to desegregation is the difference between the loss predicted from the pre desegregation line and the actual loss. The test of significance is a t-test using the pretest variance only for the standard error. This is described in more detail in Joyce Sween and Donald T. Campbell, "The Interrupted Time Series as Quasi-Experiment: Three Tests of Significance," (Evanston, Ill.: 1965, mimeographed).

11. See for example, U.S. Commission on Civil Rights, Fulfilling the Letter and Spirit of the Law (Washington, D.C.: U.S. Commission on Civil Rights, August 1976) and U.S. Commission on Civil Rights, School Desegregation in Ten Communities (Washington, D.C.: U.S. Commission on Civil Rights, June 1973).

12. Because the distribution of the variables is somewhat skewed by some extreme cases at both ends, a logarithmic transformation to the base 10 (adding .001 to all cases to eliminate zeros) was performed on all variables. All further analysis is based on the log of each variable. A logarithmic transformation preserves the rank ordering of the cases but pulls the extremely large values in toward the middle of the scale and spreads the smaller values out in comparison to the original, unlogged values of the variable. This shift toward a symmetrical distribution better fulfills assumptions that form the basis of statistical significance testing in a regression model. For an extremely clear discussion of logarithmic transformations see Edward Tufte, Data Analysis for Politics and Policy (Englewood Cliffs, N.J.: Prentice-Hall, 1974), pp. 108-131.

13. This composite variable is testing an interaction effect. The proportion of whites reassigned is multiplied times the school district percentage black on the theory that similar plans will have different effects with greater percentages of blacks in the school population.

14. Lewis Munford, "White Flight From Desegregation in Mississippi."

15. Reginald Stuart, "Busing and the Media in Nashville," New South, 28 (Spring 1973) 79-87.

16. Kirby, et al. pp. 128-130.

17. This conforms to the findings of a study by Miller and Stokes on constituency influence in Congress. It was only in the area of civil rights that the attitudes of constituents and their congressional representatives agreed. Moreover, the relationship between constituent attitudes on civil rights and their representatives' congressional roll call voting was the highest of the three issue areas studied (.90). Also the representatives' perception of constituency attitude was three times more likely to be correct in the area of civil rights than the other areas. See Warren E. Miller and Donald E. Stokes, "Constituency Influence in Congress," American Political Science Review 17 (March 1963) 45-56.

18. Kirby, et al., pp. 128-130.

19. Christine H. Rossell, "The Mayor's Role in School Desegregation Implementation," Urban Education XII (Fall 1977).

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